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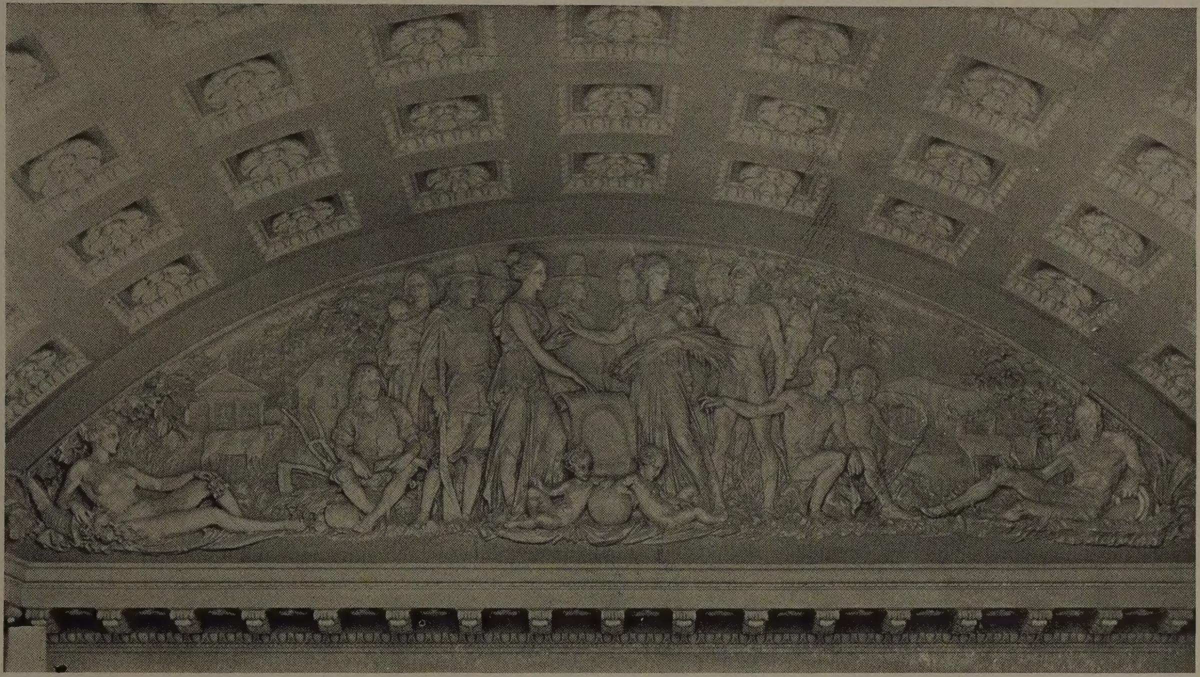


ALLEGORICAL PANEL AT EAST END OF ATRIUM, MUNICIPAL BUILDING, HARTFORD, CONN.
Designed by Davis & Brooks. Executed by Neumann & Even, Sculptors.

The Municipal Building, Hartford, Conn.

(Plates XIX-XXXVIII)

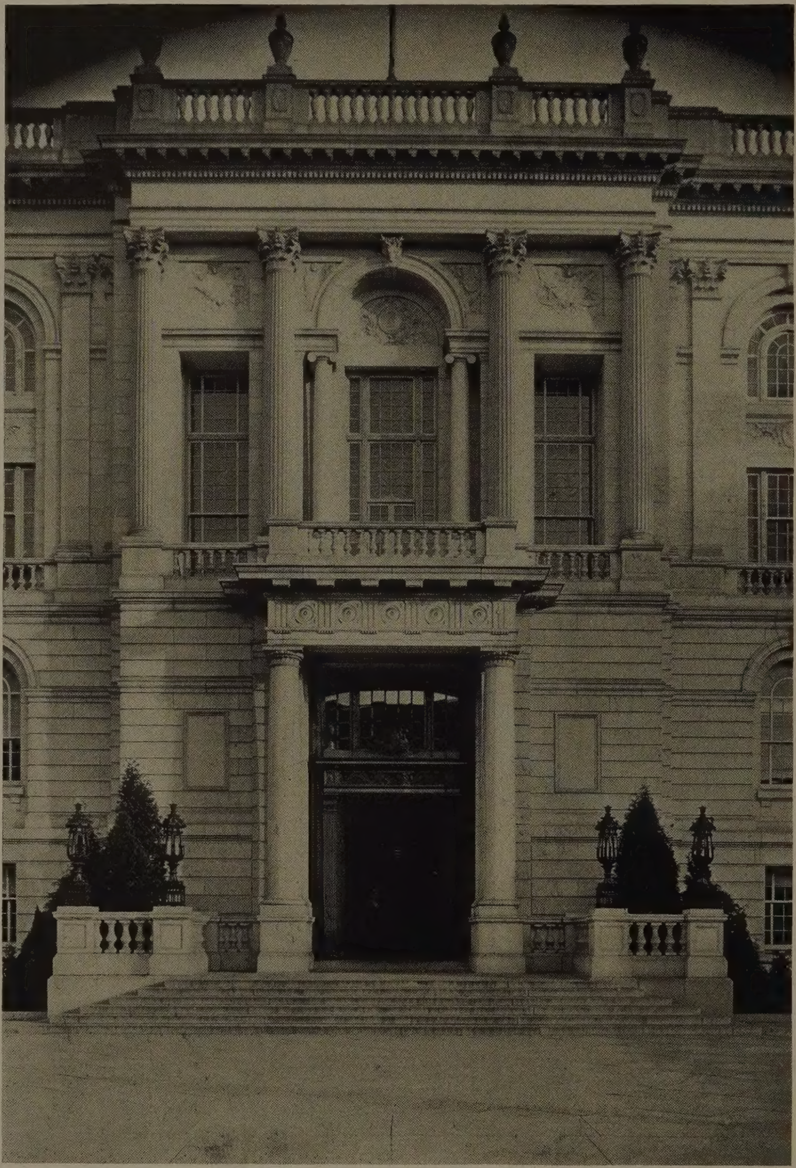
By Aymar Embury II

THIS building was won in competition several years ago by Messrs. Davis & Brooks, with Palmer & Hornbostel as consulting Architects, but the later developments of the scheme and the working drawings are from the office of Messrs. Davis & Brooks and the building was superintended from their office.

The plot, after half the width of Atheneum Street, South, was deducted, measured about 147 feet on Main Street and Prospect Street and was 357 feet deep. The building is a simple rectangle, with very slight architectural breaks, 112 feet on Main and Prospect Streets and 246 feet long, and is placed with the center of the length coincident with the center of the Morgan building. This leaves a space of 68 feet between the building and Main Street, which has been treated as a plaza bounded by grass plots with granite copings and embellished with two granite fountains and ornamental light standards. Between the building and Prospect Street there is a space of 43 feet which has been treated as a terrace with direct entrance for vehicles.

It is pleasant to find that Hartford, a good old Colonial town, with some very good old Colonial architecture in it, should return to the Colonial style for an inspiration for its public buildings after temporary wanderings in other paths.

It is said that the Architects had in mind the New York City Hall as a building possessing the character most appropriate to American city architecture, and they have in general followed the logic of the Architect of the New York City Hall in the elaboration of the main facade, and the subordination of the subordinate facade, returning the fenestration at the ends to the extent of three bays on each of the corners. The facade as a whole is not as pleasing as that of the New York City Hall, for the obvious reason that the base is disproportionately high, and that the relation existing between the wings and the central mass is quite dissimilar from that of the New York building, difficulties inherent to the requirements of the plan. The exterior architecture is comparable in period and story composition to the present City Hall of Hartford. The first story is treated as a rusticated arcade over a strongly rusticated base forming the ground-floor story. The other two stories are grouped and embraced between a Corinthian order which appears as pilasters on the end pavilions, as engaged columns on the central pavilion of the Main Street façade and as a delicately rusticated wall surface between the pavilions, over which is a low attic or fourth story. The end pavilions finish with a balustrade and hip roof. The atrium, or great central court, expresses itself on the exterior by masonry pediments at each end with a glass roof stretching between them. It is perhaps unfortunate that the illustration of the building as a whole does not give a just idea of the scale of the Main Street entrance doorway in comparison with the work above. This is much better seen in a half-page illustration of the central bay on the entrance front, where the size of the opening appears in its true relation to the size of the windows above. The massing of the detail is seen in this half-page illustration, and is extremely agreeable; the porch itself has an excellent Doric treatment, and the Corinthian order used above is delightful in proportion and admirable in its disposal around and across the Palladian window, a motive not without its difficulties, but here very beautifully thought out. The balustrade and the urns which surmount this central mass are likewise most pleasing, graceful, and sufficient.


CENTRAL BAY, MAIN ST. FACADE, MUNICIPAL BUILDING, HARTFORD, CONN.
Davis & Brooks, Architects.

The full page plate of the triple entrance in the side flanked by a pair of lions, shows how pleasantly simple motives may be handled, with a little intelligence and thought, and it may be interesting to the reader to know that these lions are not products of modern sculpture, but are an old pair which have guarded a public building in the city of Hartford for over a hundred years. They are a very nice old pair of lions too, and, though perhaps not modeled with the accuracy and proficiency which we would expect from Phimister Proctor or Frederick G. Roth, they are nevertheless good architectural sculpture and worth preserving.

The general plan arrangement of this rectangular building is as simple as its form: the offices line the outer walls leaving a court or atrium in the center which is architecturally treated and covered with a skylight. There are four entrances at the center of each of the sides but the grade of the surrounding streets is such that from Prospct and Arch Streets the entrance is into the ground floor, from Main Street it is midway between the first floor and ground floor, while from Atheneum Street, South, it is to the first floor only. This disposition of entrances has obvious advantages. It does not break but at two points the continuity of the first floor and most important offices; it permits of a high and spacious lobby convenient to both levels from Main Street, which it is natural to suppose will be the most used entrance, and combines the north entrance with the grand staircase appropriately to its use as the formal entrance from the principal façade facing the center of the city and the formally treated space and roadway bounding the building on this side to be known as Atheneum Street, South. In the first floor the vaults are placed at either side of the atrium, which supports an open gallery at the second, or main floor level. This enables the walls to be practically unbroken, giving a feeling of great dignity and repose. The open gallery is the pleasantest sort of a corridor, and a very dignified means of approach to the Mayor's reception room at one end, and the city court at the other.

The details of the plan have been excellently worked out. The basement and first story are equally accessible, and in them are placed the rooms to which visits are most frequent, and of shortest duration, as for example, the Health Commissioner, the Registrar of Electors, the Sealer of Weights and Measures, and the Charity Department and Dispensary in the basement, and on the first floor, the Comptroller's Department, Clerk's Department, Water Commissioner Department and the Town Clerk's Department, four departments, the duties of which are more or less interlocking, and of considerable importance to the public. The second floor is the most interesting. The two large rooms, the Mayor's reception room and the city court are each two stories in height, securing for these rooms the dignity and ample light which they require. The main staircase is of interesting form, and conveniently situated to all the entrances, likewise to all the departments, and the staircase itself is treated with a white painted iron railing of very excellent detail. In the main entrance a double stair leads to the first floor, while few steps descend to the basement floor, which is on a level with the street at the rear, and there directly accessible by vehicle.

The atrium is most interesting, both because of its unusual treatment and because of its great size and central prominence. The treatment of the ends is not entirely satisfactory, but the sides leave little to be desired, and the lighting, both by day and night, is unusually happy. In the atrium, as in the exterior, a Doric order is used in the lower portion, with a Corinthian in the upper, and the introduction of the Doric columns between the long plain walls is extremely agreeable.

From the first floor the atrium is entirely open to the arched ceiling light above and the circulation of the second floor is over the vaults of the first floor in the form of an open gallery or promenade, while the circulation of the third floor is behind the arcaded walls of the atrium itself.

This increase of width as the atrium ascends not only produces an agreeable effect of space and elegance in the interior but corresponds to the diminishing width needed for the offices themselves in the upper floors.

The whole is surmounted by a delicately ribbed ceiling, light segmental in form, and terminated at each end by segmental coffered vaults in the tympanums of which are two large sculptural panels of local historical intent.

There are four elevators, two of which are now installed, situated at the corners of the atrium and directly available from the east and west entrances.

Perhaps the pleasantest rooms in the buildings are the two court rooms, a city court and a probate court, the city court being one of the best rooms of its kind in America. It is treated with a vaulted ceiling with penetrations supported on pairs of fluted Doric pilasters, surmounted with an entablature broken at the penetrations. The exquisitely refined scale of the detail is comparable only with some of our best Colonial work, and the lighting and the furniture are equally happy.

The judge's rostrum is flanked by book cases, adding a most interesting and logical decorative spot of color, unforced, restrained and easy. The ceiling treatment is unusual in the introduction of bands just above the tops of the penetration, running the length of the room and terminating against the elliptical spandrel.

The probate court, which is placed in close relation to the city court, is a delightful, square court room, dignified and yet intimate. The spirit of the court room is not lost, and yet the air is rather more that of the rooms of a family lawyer than that of the majesty and menace of the law.

The Mayor's reception room is an excellent example of the Greek revival as modernized into harmony with the scale of surrounding Colonial work, and the mantelpiece is surmounted with an old mirror and frame. The doorway to the Mayor's reception room has likewise the detail of the spirit of the Greek revival, with the familiar palmette and anthemion motive used as a decoration for the frieze, and a painted ornament on the cymatium.

The building is of masonry construction with brick bearing walls forming the atrium as well as the exterior. The floors are carried on steel beams and terra cotta arches. The exterior is faced with Bethel white granite and the inside is plastered on gypsum furring, which also forms the partitions. All finished floors in the public portions of the building are marble or tile, all office floors are of cement covered with battleship linoleum in the work rooms and with a one-piece Axminster rug in the private offices. All window and door casings are of plaster, except where they are of marble or metal.

The only woodwork in the building is the inside office doors, which are mahogany, and the sash and frames. In such critical places as the Record Rooms and about the mechanical plant these are metal covered.

The roof is of fireproof construction covered with copper and tile and the big central skylight of over 5,400 square feet is of wire glass.

Advantage was taken of the low level at Arch and Prospect Streets to place the boilers and coal storage wholly outside of the building proper and under the terrace already described.

The heating is by hot water, both direct and indirect, and electrically run fans force filtered air in and exhausts by ducts to the roof. Every office in the building is given some indirect heat and ventilation and the larger and more used rooms complete ventilation.

In addition to the usual toilet accommodations, the plumbing is so distributed along the outer walls of the building that lavatories may be installed wherever they are found essential. There is a fire service standpipe in each corner of each floor. The building is equipped with an icewater machine supplying four fountains on each floor near the elevators, and with a vacuum sweeper.

In addition to the direct lighting of the public spaces there is behind the great central ceiling light a system of lamps and reflectors producing a beautiful daylight illumination over the whole atrium.

The offices are entirely lighted by indirect or semi-indirect light, but are provided with plugs for such electrically run fans, machines or extra lights as may be desired.

The building is completely wired for telephones with a central station in the superintendent's office; there is an electric clock system with four dials in the public parts and one in each of the principal rooms, and there is a watchman's clock system.

The office furniture is partly of steel and partly of mahogany.

In general all vaults and counters, filing cabinets and the entire furniture of the Record Rooms are steel. The desks, tables and chairs and incidental pieces are of wood.

The lighting fixtures, notice and directory boards, are of bronze. All the wood furniture and the fixtures have been carefully designed to harmonize in period and character with the architecture surrounding them.

The carving and modeling of sculpture throughout is of an unusual order of excellence, and the lunettes, the work of Neumann & Even are well modeled flat pieces of sculpture.

The ceilings likewise are good, and, as a matter of fact, the building throughout all its parts displays much greater care and attention to detail than we customarily find in our public buildings. There is too often a tendency to slight the comparatively unimportant functions of a building to lay stress on important ones, which has not been here the case, and it is a genuine relief to find them all so carefully attended to.

The Steel Girder

By DeWitt Clinton Pond, M. A.

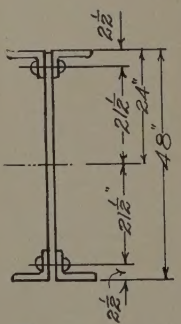
Mr. Pond has charge of the practical course in Architectural Engineering at Columbia University. He is the author of "Engineering for Architects," recently published in book form, the same being a series of articles formerly appearing in ARCHITECTURE.

THE method employed to determine the size and weight beam, strong enough to carry a given load, is that in which the bending tendency of the load is made to equal the resisting ability of the beam. The bending caused by a load over the entire beam is given by the formula $M = \frac{1}{8}Wl$. M is known as the *bending moment,* W is the uniformly distributed load, and l is the span, measured in inches. The bending moment, M, is measured in inch pounds, and this unit is used to measure bending in much the same manner as inches are used to measure lengths.

The resisting ability of the beam is measured by the formula $M = S\ I/c$. The details of this formula will be discussed later but for the present it may be assumed that when the two M's are equal the beam is safe. In other words, when $\frac{1}{8}Wl = S\ I/c$ the beam is strong enough to withstand the bending tendency set up by the load W.

The fraction expressed by I/c is known as the section modulus and has been determined for any particular steel beam, chanel, or angle. On page 142 of the Carnegie "Pocket Companion," or on page 164 of the 1914 edition of the Cambria hand-book, the section modulus of beams is given in the column denoted by the large letter S. It will be noted that for a 15-inch, 42-pound I-beam the section modulus is 58.9. In like manner this element or property of any beam may be found.

As, in the formula $M = S\ I/c$, the letter S denotes the stress that steel will safely withstand—16,000 pounds per square inch—it is possible to determine the resisting ability of any beam by means of this formula. The difficulty of finding the section modulus for a built-up section, however, has caused engineers to disregard to a certain extent this method of determining the sizes of members of riveted girders.



FIGVRE 1

In the fraction I/c, I is known as the moment of inertia, and c is the distance from the centre of the section to the most remote fibre. This sounds complicated but in reality the moment of inertia can be considered as a numerical value and can be found for any steel beam, channel, or angle in the tables referred to before on pages 142 to 151 of the Carnegie, and 164 to 185 of the Cambria hand-books, in the columns denoted by the large letter I. By looking through these tables it will be found that the moment of inertia—I—of a 6″ × 4″ × ½″ angle with relation to the axis parallel to the longer leg is 6.27.

The moments of inertia of plates is given in another set of tables in each hand-book. In the Cambria hand-book on pages 186 and 187 of the 1914 edition the moment of inertia of plates varying in size from 2″ × ¼″ to 48″ × 1″ can be found. In the same manner they can be found on page 160 of the Carnegie "Pocket Companion." It will be seen that for a 48″ × ⅝″ plate the moment of inertia is 5,760.

The moment of inertia of the 6″ × 4″ × ½″ angle is given with relation to its own axis parallel to the longer leg. If four of such angles should be riveted to a 48″ × ⅝″ web plate, as indicated in Fig. 1, the moment of inertia with relation to the axis of the girder thus formed would be considerably greater. The formula that gives this moment of inertia is $I = I' + Ah^2$.

I' is the moment of inertia of the angle around its own axis, in this case 6.27, A is the area of the angle, and h is the distance between the axis of the girder and the axis of the angle. Referring to Fig. 2, it will be noted that the distance from the back of the angle to its own axis is 0.99″. This distance can be checked by means of the tables of properties or elements of angles found in the hand-books. In these tables the distance "x" is given.

As the distance between backs of angles is 48″, the distance between the axis of the girder and the axis of the angle is 24″ — 0.99″ = 23.01″. This distance is "h".

The I for a 6″ × 4″ × ½″ angle around the axis of the girder is then $I = 6.27 + 4.75 \times 23.01 \times 23.01$, or $6.27 + 2{,}515 = 2{,}521$. It may be noticed in passing that I' is quite small in relation to Ah^2, and engineers, in rough figuring, sometimes disregard the smaller number. If 2,521 is the I for one angle, the moment of inertia of four angles is four times this figure or 10,084. The moment of inertia of the four angles and the 48″ × ⅝″ plate will be 10,084 + 5,760 = 15,844.

The New York Building Code allows a safe working stress of 16,000 pounds per square inch for steel, provided only the *net* area of the material is considered. It will be noticed in Fig. 2 that the angles are held to the plate by means of rivets, and the metal lost because of the rivet holes cannot be considered in determining the strength of the girder. If the strength is found by means of the moment of inertia, the I of the lost area must be subtracted from the 15,844 found above.

Disregarding I′ the formula becomes $I = Ah^2$. The rivet hole will be assumed to be one inch in diameter, and, as it passes through two one-half inch angles and a five-eighth inch plate, the area lost by one rivet hole will be 1″ × 1⅝″ = 1.625 square inches. This is the value of A. The distance—h—from the center of the rivet hole to the centre of the girder is 21.5″, as can be seen in Fig. 1. $I = Ah^2$, becomes I = 1.626 × 21.5 × 21.5 = 751. Two holes will have a combined moment of inertia of 1,502. Subtracting this from 15,844 the total I for the section becomes 14,342.

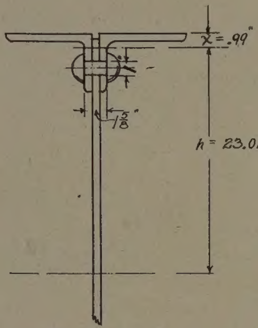


FIGURE 2

The distance from the centre of the section to the most remote fibre—c—is one-half the depth of the girder or 24″. The fraction expressed by I/c then becomes 14,342 ÷ 24 = 598.

The safe load that such a girder will carry over a span of forty feet can be determined from the formulas already given—$M = \frac{1}{8}Wl = S\ I/c$. The unknown quantity is W. *l* equals 40 feet, or 480 inches. S is the safe stress allowed by the Building Department, or 16,000 pounds per square inch. I/c for this particular section has been found. Substituting in the formula, $M = \frac{1}{8} \times W \times 480 = 16{,}000 \times 598$. W can be found to be equal to 159,500 pounds.

By the above methods it is possible to determine the safe loads on built-up girders and tables can be made, but, unlike beams, for which the fraction I/c is constant, girders can be made of a great variety of shapes and it will be obviously impossible for any one to make tables that will cover all combinations. In the Cambria hand-book, on pages 289-298, a set of tables is given which is safe for certain sections, but unfortunately the safe stress has been taken as 15,000 pounds per square inch, instead of 16,000 pounds as allowed by the New York Building Department.

A table of safe loads has the disadvantage of being of use only when uniformly distributed loads are being considered. A table giving the section moduli is of more value as this can be used when any kind of loads are encountered.

There is such a table given in the Carnegie "Pocket Companion" but this has the disadvantage of being determined for *gross* areas and not net areas as required by the Building Code.

When plates are used on top and bottom flanges of built-up girders, the method of determining the section modulus is the same as that already given. Suppose a fourteen by one-half inch plate were added to each flange of the girder considered above. The girder would then be made of the following members, one 48″ × ⅝″ web plate, four 6″ × 4″ × ½″ angles, and two 14″ × ½″ cover plates. The moment of inertia of the web plate, and that of the angles has already been determined, and if the I for the cover plates is added the total I for the gross section will be found.

Again using the formula $I = Ah^2$, A for a 14″ × ½″ plate is 7 square inches, and h is equal to 24¼″. I = 7 × 24.25 × 24.25 = 4,120. For two plates the moment of inertia will be 8,240, and the total I for the gross area will be:

Web plate	5,760
Angles	10,084
Cover plates	8,240
Total	24,084

From this moment of inertia of the gross area must be subtracted the moment of inertia of the rivet holes, and in the present case there are the two in the web, which have already been considered, and four in the flanges as can be seen in Fig. 3. The cover plate is one-half inch thick and the angles are also of the same thickness, so the total thickness of metal, pierced by the rivet holes, is one inch. If the holes are one inch in diameter, the area lost by each is one-square inch. This is A in the formula.

The distance from the centre of the girder to the centre of each hole is 24 inches, and this distance is h.

Ah^2 becomes 1 × 24 × 24 = 576, and the I for four holes is 2,304. Adding this to the I for the two holes in the flange, the result is 2,304 + 1,502 = 3,806. This must be subtracted from 24,084 to give the moment of inertia of the net area, or,

+I, for gross area	= 24,084
—I, for rivet holes	= 3,806
I, for net area	= 20,278

The distance—c—from the centre of the girder to the most remote fibre is now 24½ inches. I/c becomes 20,278 ÷ 24.5 = 828.

The safe load for this girder can be determined in the same manner as before by the use of the formulas $M = \frac{1}{8}Wl$, and $M = S\ I/c$. By assuming the span—*l*—equal to 40 feet, and combining the two formulas the following result is obtained.

$$\tfrac{1}{8} \times W \times 40 \times 12 = 16{,}000 \times 828.$$
$$W = 220{,}800 \text{ pounds.}$$

The above examples have been given to show how it is possible to determine the section modulus of built-up girders. In articles that have appeared in other issues of **Architecture**, the author showed how it was possible to use the section modulus in the determination of beams which will carry certain loads, no matter what their positions upon the beams or girders. For this reason the tables given in the Carnegie Pocket Companion can be of great use provided it is remembered how these tables are deduced, and that reduction must be made for New York practice.

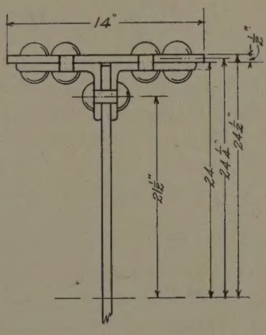


FIGURE 3

The reader can, by employing the methods outlined in this article, makes tables for himself, which can be of great use.

In some cases it is not necessary to resort to the type of girders made from plates and angles. It is possible to rivet plates on the tops and bottoms of beams which will give them additional strength. The method of finding the strength of such combinations is the same as already given.

Suppose that it were necessary to find the section modulus and safe load for a 24-inch, 80-pound I-beam with 12-inch by ¾-inch plates riveted on top and bottom flanges. The moment of inertia of the beam itself is given in the hand-book as 2,087.2. The I for the plates is found by means of the formula $I = Ah^2$. A, for a twelve by three-quarters plate, is nine square inches. The distance—h—is twelve and three-eighths inches, and, by substituting in the formula, it is found that I equals $9 \times 12.375 \times 12.375$, or 1,378.27 for one plate. Two plates will have a moment of inertia of twice this or 2,756.54. Add to this the I for the beam and the total for the gross section will be 4,843.7. From this must be subtracted the I for the rivet holes. In the first part of the hand-books will be found dimensions of the beams and channels and other shapes. It will be seen that the *average* thickness of the flange of a 24-inch, 80-pound I-beam is .87. The thickness of the plates is .75, and the total thickness of the metal removed for the rivet hole will be $.87 + .75 = 1.62$. Assuming that three-quarter inch rivets are used, the diameter of the hole will be seven-eighths of an inch, so the total area lost by each rivet hole is $1.62 \times .875 = 1.42$ square inches.

The distance—h—from the centre of the beam to the centre of the hole is approximately 12 inches, so Ah^2 becomes $1.42 \times 12 \times 12 = 204.5$, which is the moment of inertia of the metal lost because of one rivet hole. The I for the metal lost for four holes will be $204.5 \times 4 = 818$.

This must be subtracted from 4,843.7—the I for the gross area. $4,843.7 - 818 = 4,025.7$, which is the total I for the net area.

The distance—c—from the centre of the beam to the most remote fibre is 12.75 inches, so I/c becomes $4,025.7 \div 12.75 = 315.7$.

In the January issue of ARCHITECTURE the subject of coefficients was discussed. To formulate a table of safe loads for a 24-inch, 80-pound I-beam, with twelve by three-quarter inch plates riveted on the top and bottom flanges, it is necessary to combine some of the figures found in the two formulas $M = \frac{1}{8}Wl$, and $M = S\ I/c$. Equating these two formulas, it is possible to proceed as follows:

$$\tfrac{1}{8} \times W \times L \times 12 = 16,000 \times 315.7$$

$$W = 16,000 \times 315.7 \times 8 \div 12L.$$

$$W = 3,368,000 \div L.$$

This means that 3,368,000 is the coefficient of strength of the particular combination under consideration. To develop a table of safe loads simply divide by the desired spans. To illustrate: Suppose that it were decided to determine the safe loads for spans of 20, 21, 22, 23, 24 and 25 feet. The safe load for a span of 20 feet will be $3,368,000 \div 20 = 168,400$. For a span of 21 feet it will be $3,368,000 \div 21 = 160,381$. For the other four spans the loads will be 153,091, 146,435, 140,333 and 134,720 pounds.

These results will be found to check with those given in the tables for safe loads on riveted beam girders, which are on pages 230 and 231 of the Carnegie Pocket Companion. It will be noticed that these loads have been figured for the net area, although at the bottom of each column, the section modulus is given for the gross area.

The methods and information given in this article are of a more complicated nature than found in those in other issues. The object has been to familiarize the Architect with certain tables in the hand-books that are often either not used at all, or are used without regard to whether they are determined with a view of meeting the requirements of certain building laws or not.

The Man, The Place and The Garden

BY JAMES L. GREENLEAF, LANDSCAPE ARCHITECT

The following is from the address of Mr. Greenleaf before the New York Farmers at the Metropolitan Club, New York. The members of this association are all wealthy men who own large estates in the vicinity of New York City.

A WELL known member of your society was born and spent his boyhood in one of the towns which fringe the Hudson River not many miles above New York, and some time ago—I do not recollect whether it was a Centennial celebration or Old Home Week, or what it may have been—he was addressing a very enthusiastic audience and said: "There are a great many things happening in the lives of most men, but there are just two things which ought to happen in the life of every man. In the words of scripture, 'He should be born again,' and—he should be born in Peekskill." I appreciate that sentiment, but I would broaden its scope and simply say he should be born in the country—almost any part of it will answer. Now, on such a basis, I think I may meet you farmers on common ground, and I trust that for this evening at any rate I may claim that I am one of you, for I was born in the country, and while my father was regaining his health on a mountain farm I was gaining my knowledge of things. Such a training is of inestimable value to any lad. So I know something of the point of view of farmers. I understand something of their difficulties, and I can sympathize with their trials.

You have my profound sympathy, for I understand that every one of you is the owner of a country place. When a man takes over a country place he takes on responsibilities with his pleasures, and the years add experience. If they do not, you may count upon it, the men on the place will. The fact is that the owner of a country place can become altogether too wise for his own comfort and peace of mind. And then there is a whole chapter of experiences involved in dealing with landscape Architects.—Of course you all know this.—That way lies the opportunity to become very deeply versed in human nature.

But I can assure you that there is a reverse to the shield. The landscape Architect himself is a chastened spirit. Sweet to him are the uses of adversity. He becomes a highly finished product under the attrition of experience. Said a prominent Architect not many years ago: "After having practiced my profession for a term of years I consider that I am qualified for the most difficult diplomatic post in Europe." Yes, the heaven-born psychologist has a splendid groundwork on which to base the practice of landscape architecture. Why, it is the truth, the handling of the physical elements of a design are dead easy,—they are a joy; the real work comes in the adjusting of the design to the limits of cost, to the pre-conceptions of the client, and sometimes, alas, to his utter lack of knowledge of the subject. Training the client in the way he should go is a fine art. Gaining the confidence of an over-cautious client is a triumph. Of such are the things that develop an all-around character in the landscape Architect.

There are still men of affairs in this country who have apparently the impression that a landscape Architect is a man whose chief business it is to plant bushes. Now, I would like to mention that landscape architecture is an art and a profession; it is not a trade. A landscape Architect is not a gardener skilled in raising plants and preventing mildew; he is not a horticulturist, he is not a builder, he is not a grader. If trained, he is a designer and an executive, in the same sense that the Architect of a building is a designer and an executive. He should be trained, of course, in engineering, in horticulture and in building construction, but—and I want particularly to emphasize the point on this occasion—he should be trained in design, in style and in appreciation of scale.

Design, style and scale are more or less indefinite terms, more or less intangible and vague we feel them. You are farmers, and must have something of a philosophical bent. I suppose that in the long winter evenings you have little to do but to sit and think. Therefore you will the more willingly go with me as we penetrate a little into the meaning of design. Let us go a step in that direction. I conceive design to be the moulding of material things into lines of utility and beauty. We all have a fairly definite idea of what the term utility means, but what is beauty? Is it an abstraction? Does it soar full fledged from the cold inaccessible mountain heights of thought? If we had the wings of angels and could rise to their conception we might see it as something fixed and definite. In that case design would be an exact science, but we deal with things in our finite comprehension. For example, we understand good only as we appreciate evil, and we can see beauty only as we experience ugliness. I take it that our comprehension of beauty is the result of very complex relations. It is the result of heredity, tradition and social customs, the combined influence of experience in its broadest sense; and so design, which as I have just said is the moulding of material things, blending them into lines of utility and beauty, is an expression through our mentality of tradition, heredity and social customs, of all the complex experiences of life. Therefore design is always in a state of flux, continually blending, continually changing as the years pass and our experiences grow. Particularly is this the case in the United States. We talk about the creating of an American style, more especially with reference to architecture. I think the reason we have, and can have, no distinct American style as yet is that we have not much tradition behind us. Our historical background is limited. Such style as we have in our architecture is something which to a large extent we have inherited, and to a great extend we have recently imported.

So, we may say that design is not definite, is not exact. It is the outcome of complex relations. Moreover, it is appreciated in proportion to our breadth of study and to our general culture, not simply culture in the drawing of lines, but in the way those lines interpret history and the traditions of the people.

But some one may say, "It is all very well to talk about design in landscape architecture, but I don't care very much about that; I am more interested in masses of foliage, sunlit meadow and winding river; I like the things that nature makes for us; nature is our best designer; give me nature every time." You will hear that, and some of us may have a lurking sympathy with the thought, but is it reasonable? Quite true, nature does give us beautiful results, but nature is not art; nature is blind when it comes to handling things so as to mould them into lines of utility and beauty in accordance with the complex relations of life and social customs and in accordance with our traditions, our inheritance and our heredity. There is no conflict between nature and art, and there is no conflict between nature and design. Although there is reciprocity between them they rule in totally different fields, and so, as I take it, it is rather beside the mark for one to say, "I like the natural style best, a great deal better than the formal style of design." Might not one just as well maintain "I like the wild grapevine and the odor of its blossom better than I do the flavor of the black Hamburg?" Now, you do not quarrel with that rather incoherent opinion, you mildly start and wonder, in the vernacular, "where are we at."

So, if any one is disposed to turn impatiently away from the question of design because he is interested in nature, I just want to say that we also love nature; but for tonight we are talking about design and more particularly about garden design. By garden design I do not mean simply a little inclosure in which flowers are grown; I mean the subject of gardening design in its broader phases as connected with the development of the surroundings of the home. The house platform, its terraces, and the water features if there are any; the gardens proper, the surrounding walls, the masses of foliage bordering and giving that seclusion which I think sometimes is nine-tenths the charm of a garden, the planting, and scores of details which are related with the design. These are the things, to my way of thinking, which have to do with the landscape architecture of gardens and which give to garden design its interest, breadth and dignity. There should be no protest against the discussion of such a subject—in fact I do not see how any of us when building our country places can ignore it. If you fancied an Italian villa or a French chateau or a stately English country house, would you, for example, for one moment expect to plunge it down on a hillside in the midst of a pasture with sheep and cattle grazing right up to its walls on all sides? Being a man of culture you simply could not do it. You must give suitable surroundings to the building. The man who says, "Away with the laws of design, I care nothing for it; I know what I like, I will be a law unto myself on these matters," is bound to get himself into trouble. Try that against the moral law and one is written down an outcast, a barbarian; try it against the laws of design and one is a Philistine, he becomes a by-word and a hissing at every dinner party of the countryside,—and you know the dinner party of the countryside to be the forum of local opinion.

Then again there is the question of scale. In designing you must consider scale, or rather, one must have a feeling for scale. It is rather a difficult subject to treat, rather difficult to comprehend; it is something more to feel than to talk about, but the relation of this part with that, the proportion of the masses, their balance, the consistency of the parts with the scope of the subject you are dealing with, a fine relative significance of detail in comparison with the sum total of effect; that is what I mean by scale. For example, in the Dukeries there is a magnificent drive leading up to Newcastle Place, two or three miles long, a grass plot with a double row of trees on either side, splendid in proportion and grand in effect. What would be the effect of such a drive leading up to a little jigsaw frame country villa? That is a pronounced illustration of lack of scale; and then again, would we build stately terraces in front of a cottage? Of course we would not; but how about placing a little garden in front of a stately house. I am not sure that the distinction there is quite so definite, it does not seem quite as apparent that there might be lack of proportion, of scale, that there might be lack of good judgment and taste in so doing, yet the violation of scale is really quite as great.

Mr. and Mrs. Client are perhaps motoring in England, through Sussex or Kent, for example, which abound in the loveliest little villages and wayside cottages. They flash by a little garden which is just one mass of color, and they return home with a vision of the garden. "That's the thing we want, Mr. Landscape Architect; we have seen our garden, the very thing. Of course it must be done larger, but make it simple, absolutely simply; we don't want any elaboration, we want just a quiet lovely little place, but make it a riot of color; color is what we want," and they forget that that little garden that they saw was by a laborer's cottage and not in front of the squire's mansion. To them breadth of walks, spaciousness, depth, proportion of masses one to the other, height of walls, enclosure of the garden and a dozen other things mean nothing There are people who would see nothing improper in building a large imposing house at one end of an axis line and placing a little wire rose trellis at the other end. They go on perpetrating such offences until after the course of years, and giving more thought to the subject, perhaps when it is too late, they realize something of their errors.

If I seem to be oracular in my remarks I trust you will pardon me. I know you have had experience with gardens, and have beautiful gardens, many of you, and could give me points. But pray don't make the mistake of thinking my profession lacks authority. There are men who look on the landscape Architect as rather a newcomer and assume that landscape architecture as a profession is in its swaddling clothes. I just want to tell you that it is one of the oldest professions extant. Listen to the proof. I do not go back to Adam for it; Adam delved in a garden, but after all he was a gardener; his garden was designed for him. But I do go back to Solomon; that prince among wise men, one of the greatest builders of all time, founder of the order of Masons, and I declare that he must have been a landscape Architect and here is the reason for thinking so. He was the first man I know of to put landscape architecture on a sound basis, because he says in Proverbs, the 24th Chapter and the 27th verse, "Prepare thy ground without and make it for thyself in the field and afterward build thine house."

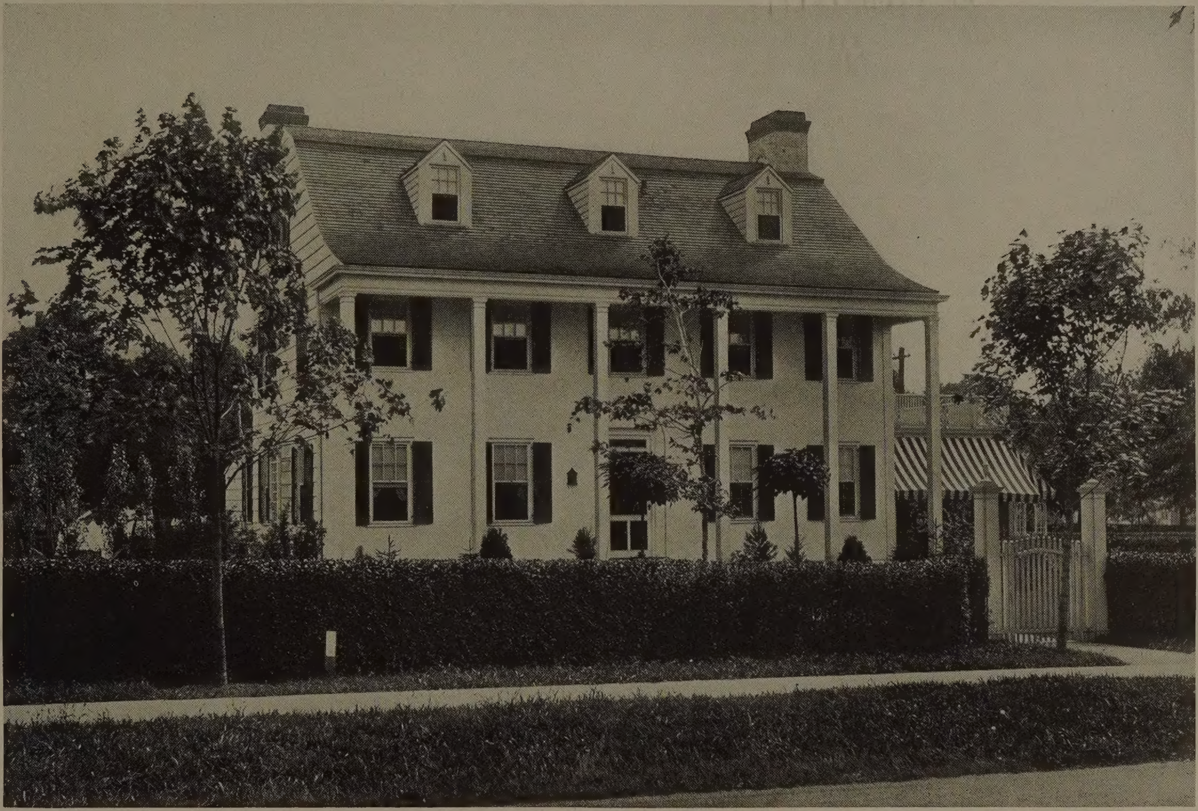
Interpreted in its broader sense Solomon's saying means this: consider all the circumstances in building your house, all the surroundings, all the things that have to do with its make-up, the prevailing breezes, the sunshine, the outlook, the views, the means of approach, the nature of the soil, the water supply, the grouping of the outbuildings, these and still other points. Solomon says, "Do not decide in advance what kind of house you are going to have and draw it up on paper, or perhaps actually put it on the ground and then call in a landscape Architect to pull you out of a hole."

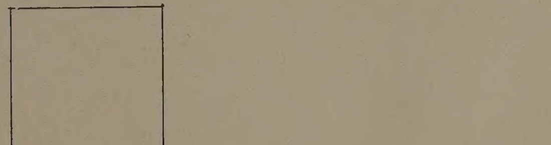
Just run over in your mind the gardens of the past and you will see this to be true. There is the medieval garden for example, the little plot almost inside of the old Norman keep in the days of battle and murder and sudden death, where perhaps the Baron's lady had a litle turf and a few flowers. Go from that into a Gothic garden, where there was a little more liberty; nevertheless the garden was surrounded with crenelated walls and the "mount" or raised walk along the inner side, from which when not engaged in battleaxing their neighbors the family could look around over the country or over the garden and the court within. Then take the influence in Italy of the Renaissance, the rebirth, and see how that was ultimately carried over into England and affected the gardens of England so that you find implanted on the old Gothic architecture, detail which has been borrowed in its inception at least from the architecture of Italy.

Then take France, at the time of Louis XIV, the Grand Monarque, the stupendous garden work he did, and trace the influence of that into England and see how the impulse of his period was carried into English life.

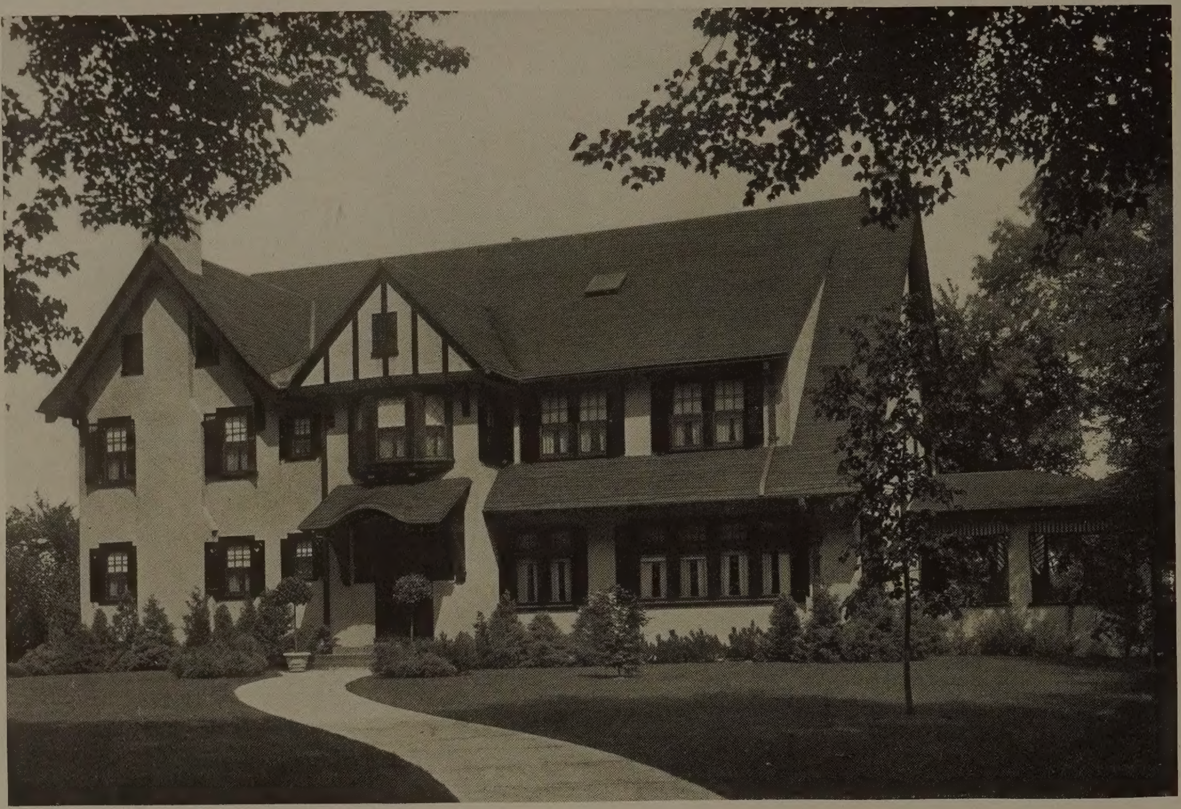
Next look at the Georgian and its transplanting into this country. So close is the relation that we find in Wrenn's church steeples of London some of the finest examples of our own Colonial. In our gardens we have the Georgian carried over bodily across the water and in New England a certain distinct phase developed; in the South the conditions of life were more as in the old country and there was more of old England reflected in the garden. In New England the garden has the nature of the people, simpler, more austere, delicate, sometimes almost attenuated in style, and in architectural detail and surroundings, and yet with a distinctive fine delicacy of feeling; whereas in the Southern States, down through Maryland into Virginia, and in South Carolina, if I interpret it aright there is more direct and unchanged transplanting of the old English garden. Unfortunately we have few examples of it left there. As for the walls and outbuildings they are pretty well gone, but an illusive sentiment of old England is there still. The difference from New England is readily to be accounted for. The conditions of life in the Southern States in early years were far more free and open, there was more opportunity for social entertainment, more direct carrying over by the cavaliers of the traditions and feelings of their former home.

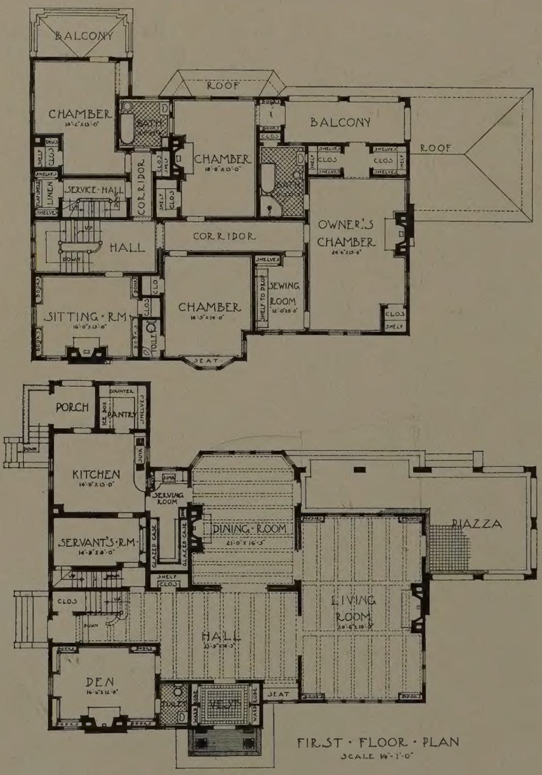
As for the present, what are we working out in garden design here in America? I do not know that we are working out any definite individual style as yet. We are too much in the turmoil and confusion of the immediate to see clearly what the ultimate may be. Take a motor trip around Boston for example, and in one day you can see the Colonial garden and the English garden and the Italian villa, and the Japanese garden, the Dutch garden, and others which are more names than realities; you will find them all side by side.





HOUSE AND PLAN, RAYMOND S. CLARKE, KENSINGTON, GREAT NECK, L. I. Alfred Hopkins, Architect.





HOUSE AND PLANS, JOHN L. WAY, HARTFORD, CONN. A. Raymond Ellis, Architect.

Balance in Design

By Chas. H. Sturgis

In unbalanced (in a sense) composition we need not distort the unit for the sake of some whole effect; and a beautiful building should be such that as we pass along, every part contributory to the whole, should appear an object of interest and beauty.

EQUAL disposition of mass about a centre or axis is due to a law having its origin in the demands of equilibrium. In architecture the rule applies rigidly to free-standing parts and components, such as columns. It cannot always, and need never, of necessity, apply to a whole composition. No doubt a peculiar dignity, not obtainable otherwise, attends the exactly-balanced façade in monumental buildings; but site, circumstances, and practical conditions often make it an impossibility for the designer to proceed on centre-and-wings principle. We have, then, to design irregular building masses with grace and beauty. Irregular architectural composition favors variation and novelty: that which at first sight seems an evil need not necessarily prove so. Looking back into architectural history, we see that irregular plans are by no means inconsistent with grandeur of effect. The departure from exact balance in Gothic buildings gave them one of their greatest charms.

In all great styles the rule of exact symmetry in the part is closely followed. This assertion may seem inconsistent with fact, and would be so did we not here include all components that are wanting in exact equal-sidedness by reason of their breaking into other masses. Where a square plan breaks into a circular, the square and the circle are broken; but the spirit and intention in the square and in the circular plan is exact symmetry. When, therefore, we assert that in all great architectural styles the law of equal disposition of mass about a centre or plane is duly honored, we include, for the reason stated, symmetrical components breaking into others. It is possible that those of expansive views, but small practical experience in architectural design, would regard part breaking into part, and leaving an irregular junction, as fatal to all beauty of effect. The Architect will contend that such irregular junction, whereby something on asymmetric principles is produced by the union of two symmetrical objects, is not only without offense, but may originate great beauty and interest, and is quite an essential in the "picturesque." If we generally agree upon this, then something is gained of practical usefulness to the asymmetrical planner, and to all those whose minds are greatly exercised with questions of "balance" whenever they are compelled to abandon the principle of centre-and-wings.

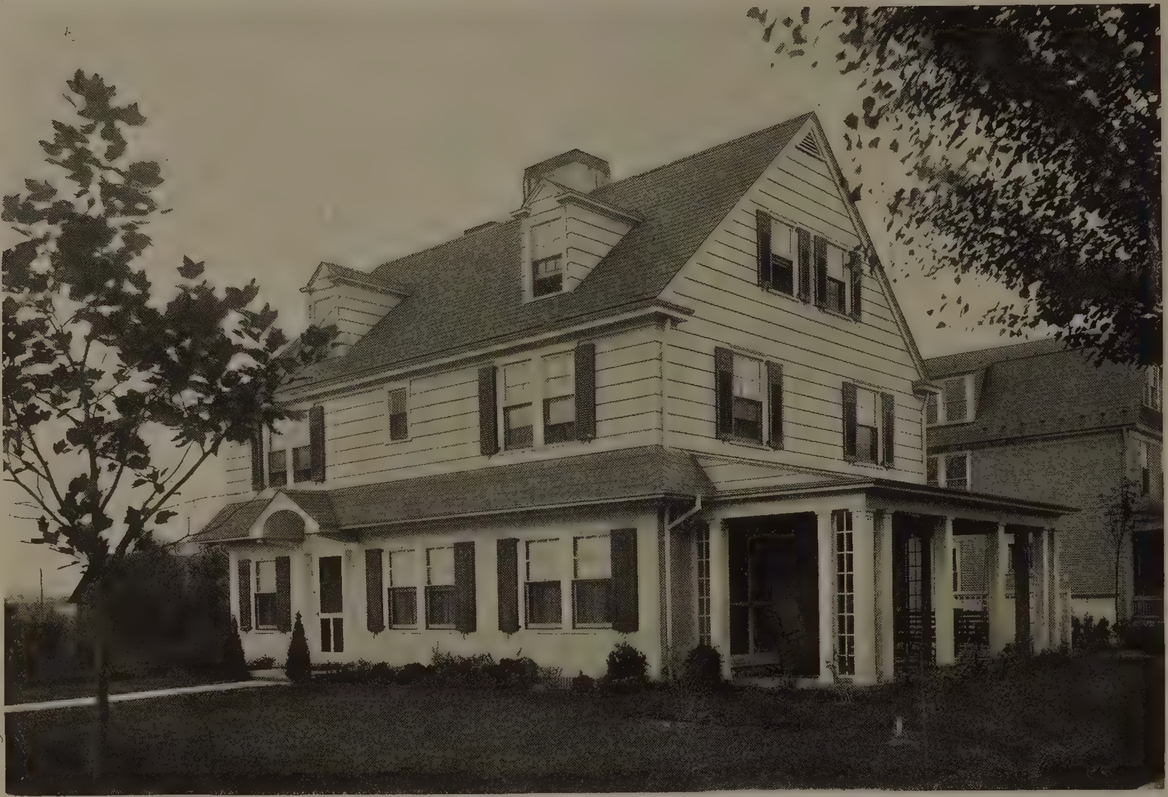
The stair-turret and the tower are largely evidenced in our old village churches. We have shown that both the turret and the tower are planned, in spirit, as objects of geometrical regularity and exact symmetry (so called). As carried out, an irregular, unbalanced mass is produced. To destroy symmetrical orderliness by breaking the one into the other seems, at first, a crude idea, likely to cause offense; but we have urged, and taken for granted the concurrence of the reader in our view, that no such offense is produced, but that, on the contrary, a resultant architectural mass of true beauty and interest is obtained.

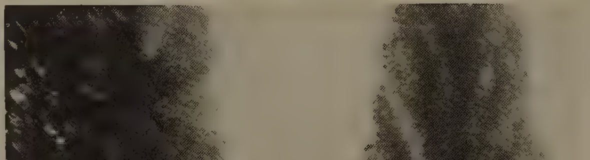
Under certain conditions, an element or compound will crystalize in true "symmetry" as a cubical figure, a tetrahedron, or the like. Under other conditions the crystals cluster. The free-born, regular, isolated crystal is an object of beauty; but no less beautiful or interesting is the group of associated crystals. Yet here, as with our turret and tower, and as in the case of all irregular junctions of divergent masses in building, broken and diverse—asymmetric—forms are produced; but so much of each crystal as exhibits itself is true to the crystal form, true to angle of crystallization, and possessed of symmetry. On the face of things, one might conclude that the irregular massing of crystals would destroy their beauty. All who carefully ponder this matter will admit, we think, that the resultant forms, lines, outlines, and masses are beautiful, often very beautiful indeed, and highly suggestive for the picturesque grouping of masses of building on the asymmetric system—that is, opposed to the centre-and-wings arrangement. We should consider this natural phenomenon, and endeavor to establish some general proposition respecting the breaking-in of part to part in architectural composition. On elevation, such masses may appear at times "lopsided"; but this effect of out-of-balance disappears in perspective.

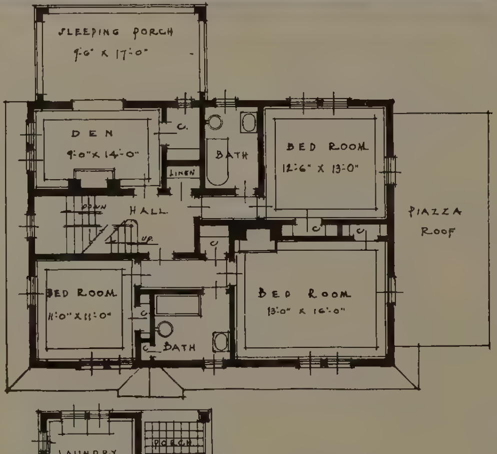
Once we have, either by choice or necessity, abandoned the centre-and-wing plan, we must, we assume, proceed on a different fundamental design principle. Asymmetrical or irregular composition must be adopted without compromise. There must be no weak leaning towards the rules of symmetry, and we should ascertain what will be the true effect of masses in execution before we amend apparent defect on elevation. Equal-side, centre-and-wing composition of a whole façade is one way; the other is totally different. It was, sometime back, observed to us on passing a block of office buildings, that it seemed that the tower "should have been bigger." The observation was not made by an Architect; but, all the same, it was much to the point. A strictly "symmetrical" façade, with equal mass right and left, up to about roof-line, had on one side a weak, half-hearted turret, an excrescence just budding, one might say. The effect and impression was that the designer had hesitated to destroy the exact equal-sidedness. Had a bold tower been provided, the composition, from a mere tribute to pseudo, or distorted, symmetry, would have passed clear into true asymmetry.

In a very difficult subject, we have endeavored to suggest two rules for guidance in irregular architectural composition, such as we find must necessarily pertain in the great majority of buildings: firstly, to maintain the great principle of mathematical equal-sidedness in the part, either

(Continued page 37)







HOUSE AND PLANS, CHARLES M. SHIELDS, KINGSTON, PA

Geo. S. Welsh, Architect.

(Continued from page 35)

actually, as in a column, or in spirit and intention, as in the circular turret breaking into the square tower; and, secondly, that when once the symmetrical whole façade is not possible, or not desired, the asymmetric principle should be consistently observed. If we believe in the former suggested rule, we shall not put pilasters with one left-hand volute on the right side of a façade, with a right-hand, single-voluted cap on the left wing. In irregular architectural composition we must needs be too urgently concerned in rendering each part beautiful to have time to waste in perpetrating these or other monstrosities. The offense is against the rule of studied "symmetry" in the part. The strongest argument for irregular architecture, and for dispersed ornamental device, is that each part of the composition may be so fashioned as to be interesting and graceful, irrespective of other parts. In unbalanced (in a sense) composition we need not distort the unit for the sake of some whole effect; and a beautiful building, surely, should be such that, as we pass along, every part, contributory to the whole, should appear an object of interest and beauty. Then architecture bears comparison with music. Our subconsciousness, or memory, holds the general air and progress of rhythm and melody, while our immediate consciousness is enthralled with the instant harmony. We cannot have it both ways: either there must be symmetry, so-called, or asymmetry—either a St. Ouen interior or a west front of Rouen Cathedral.

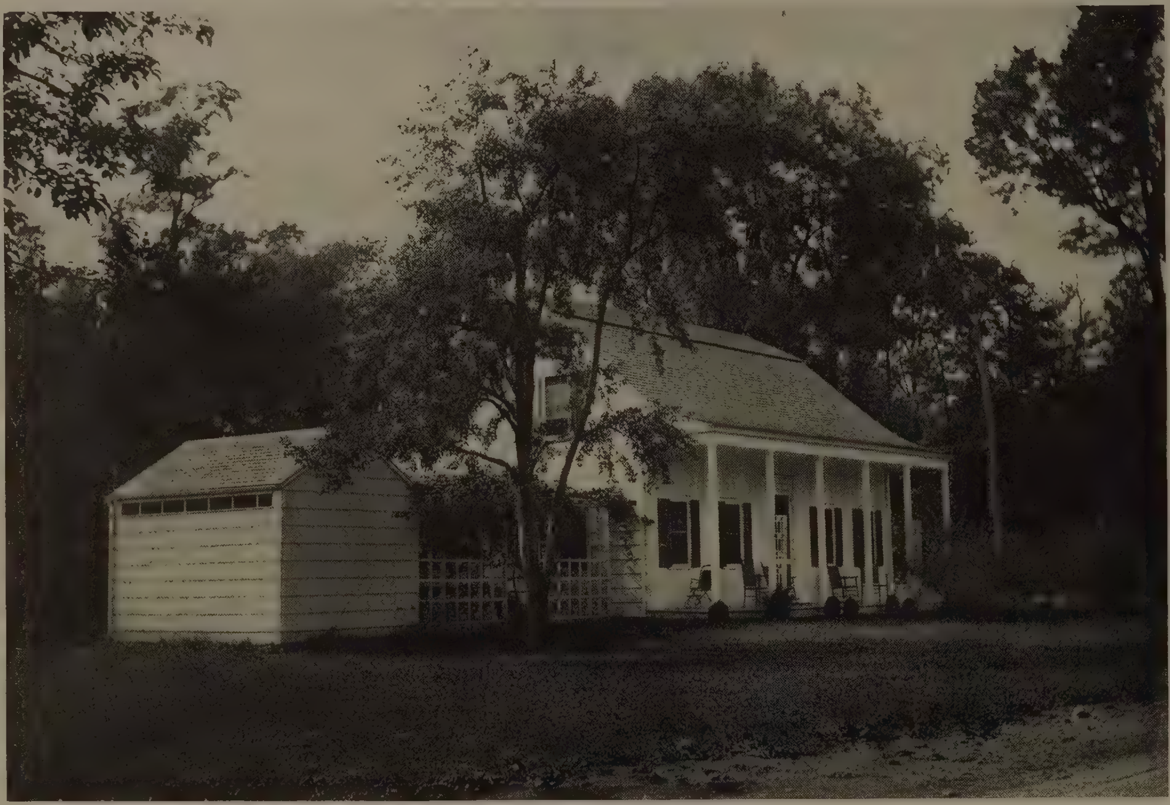
The idea that we must "balance" in irregular architectural composition is often a delusion, an impression, a legacy of lingering sympathy with exact equal-sidedness, itself largely the outcome of habitual elevational display of architectural device. The lion is sufficiently like the unicorn to balance in heraldic composition; sufficiently unlike to give individual interest to dexter and sinister hands. If we duplicate either the real or the mythical quadruped, we certainly attain exact equal-sidedness; but sameness is substituted for variety. This, by the way, demonstrates the fundamental difference between asymmetry and symmetry, so-called. We cannot, however, deal with architectural mass as the herald employs lion and unicorn. Divergent "twin" towers to cathedral west-ends may have a certain quaintness; but we generally feel dissatisfied, or unconvinced. The failure may, perhaps, be accounted for as the result of an attempt to graft asymmetry on symmetry, which we have endeavored to show is not possible. We must either produce the monumental, equal-sided building, or start away on a new plan, based on quite a different principle. Small variations in detail are added charms in many symmetrical compositions; but a great belfry is not a detail.

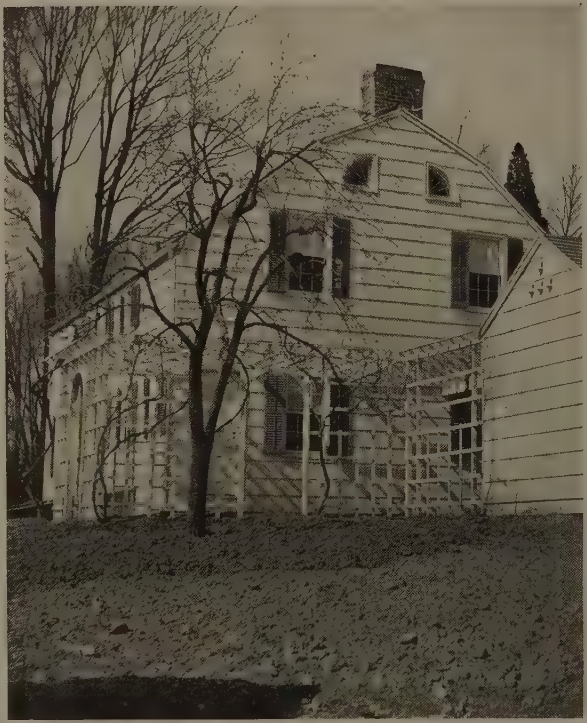
The A B C of Heraldry

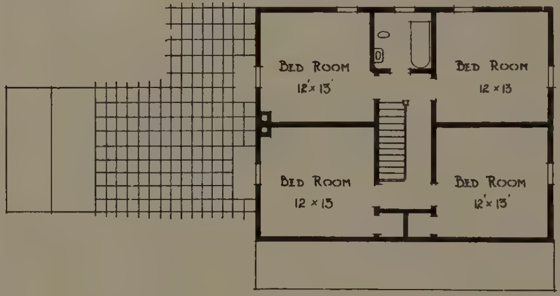
By Guy C. Roberts

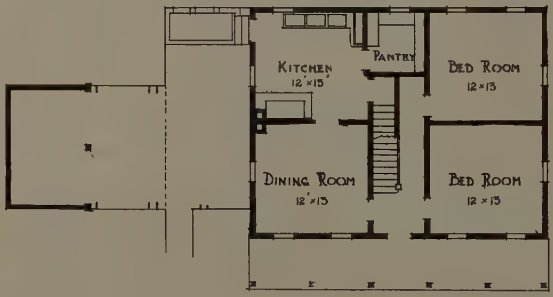
There is no lack of good examples left to us, and the Architect who will study them and familiarize himself with the alphabet of the science will find it well worth his while.

THE close connection of Heraldry with architecture has always been evident to the cultured, and no competent Architect will fail to acknowledge the debt of his own art to the Noble Science as a means of architectural enrichment. Not always, perhaps, has he used his opportunities wisely, or rightly understood them, as some of the freaks of the Gothic revivalists perpetrated half a century since bear witness; but these extravagances after all were few, and in some cases due to the fact that the Architect responsible was content to instruct the various art-workmen that such and such a shield was to be placed in this or that position, or that so and so's badge, cognizance, or motto was to be blazoned or carved here or there, when he ought to have known and made clear exactly the Heraldry he wanted displayed. In other cases doubtless he overdid it, utterly ignoring the elder Pugin's caution, "Don't work it to death!" Again some of us were so certain that Heraldry was part and parcel of Gothic architecture that when the Classic revival set in something like a settled conviction that Heraldy was out of place in Classic buildings led to neglect of the Science and its resources. There was surely no justification for that. If Heraldry is really of use—to put it on the lowest ground—to express facts in connection with the art and life of our modern times, it is as safe and wise to use it now as ever, if only we abide by the sound principles of the heralds of the golden age of Heraldry, and ignore the vain conceits of the formalists during the decadence which lasted from the sixteenth century down to the middle of the nineteenth. There is no lack of good examples left to us, and the Architect who will study them and familiarize himself with the alphabet of the Science will find it well worth his while. If he desires to give historic character to his public buildings Heraldry will enable him to associate with his work the benefactors, statesmen, potentates, and citizens connected therewith. In metal work, sculpture, glass, decoration, mosaic, and other accessories Heraldry will help all good designs. But it will not excuse the failure of rash or ignorant experiments. We do not care, for instance, to see Heraldry applied externally in color by means of encaustic tiles let into a portion of a façade faced with rubbed ashlar. Even internally color is undesirable unless this can be kept up and balanced in the surroundings. Again, we dislike to see bald blank shields alternating with the rest—intended to be garnished some day with the bearings of unborn celebrities. Above all, if possible, avoid the fanciful and absurd armorial insignia of some of the new rich! They may tickle the fancy of the vulgar, but they are never decorative, and they are always unworthy of good architecture.









SUPERINTENDENT'S HOUSE AND PLANS, THE GLENN STEWART ESTATE, LOCUST VALLEY, L. I. Alfred Hopkins, Architect.

Legal Decisions of Interest to the Architect

These decisions appear monthly and are edited by Mr. John Simpson, the well-known lawyer.

ACTION BY ARCHITECT.—WHAT AN ARCHITECT UNDERTAKES.

AN Architect entered into a contract with the owners of a lot "to furnish drawings and specifications * * * for the erection of a four-story brick building * * * and to superintend the construction of the work" by building contractors. For his services the Architect was to be paid a stated sum "on the signing of the contract" and another stated sum "on completion and acceptance of the work." The plans were drawn and submitted to the owners, and on the basis thereof, they entered into a contract with another person for construction of the building. After completion of the building, under supervision of the Architect, it was received by the owners, who placed their tenant in possession. Subsequently it was ascertained that the basement was insufficient to arrest seepage and keep out water. The owners having failed to pay the last installment of the Architect's fee, he instituted suit, and in his petition alleged full performance of the contract, and prayed to recover the balance specified therein. The plea of the defendants admitted execution of the contract, but denied all other allegations of the petition. The plea also set up the deficiency of the basement, and alleged that it was due to negligence and want of skillfulness of the Architect in the preparation of the plans of the building, and in supervising the work of construction; also that, in order to remedy the defect, it had been necessary for the defendants to expend certain sums for the cost of specified work and materials, which sums they sought to recover by way of recoupment. Judgment for the plaintiff was affirmed on appeal. It was held that on the acceptance of the work by the owners, after the Architect had rendered the entire services for which he had contracted, the Architect was authorized to sue for the balance due him by the terms of the contract. Any damage to the defendants resulting from negligent performance of the contract by the Architect was a matter for recoupment. And on the plea of recoupment the burden of proof was on the defendants. The undertaking of an Architect, the court said, implies that he possesses skill and ability, including taste sufficient to enable him to perform the required services at least ordinarily and reasonably well, and that in a given case he will exercise his skill and ability, his judgment and taste, reasonably and without neglect. This principle was substantially presented by the trial court in his instruction to the jury, which found for the plaintiff.—Block *v.* Happ, (Ga.) 86 S. E. 316.

In regard to the undertaking of an Architect the court cited the case of Coombs *v.* Beede, 89 Me. 187, 36 Atl. 104, 56 Am. St. Rep. 406, 412. In that case the court said that the responsibility resting on an Architect is essentially the same as that which rests upon the lawyer to his client, or upon the physician to his patient, or which rests upon any one to another, where such person pretends to possess some skill and ability in some special employment, and offers his services to the public on account of his fitness to act in the line of business for which he may be employed. The undertaking of an Architect does not imply or warrant a satisfactory result. It will be enough that any failure shall not be by the fault of the Architect. There is no implied promise that miscalculations may not occur. An error of judgment is not necessarily evidence of a want of skill or care, for mistakes and miscalculations are incident to all the business of life.—J. S.

PRODUCTION OF VOUCHERS FOR MATERIALS, ETC.

Action was brought on a contract, whereby the plaintiff was to provide all the materials and perform all the work for the full completion of a residence for the defendant. As compensation therefor, it was to retain as a perquisite all cash discounts which might be allowed for the prompt payment of bills for materials, etc., and a cash payment of $500, to be received upon the completion and acceptance of the work. The plaintiff sued for the $500, less an overpayment of $61.90 for materials, etc. Under the contract it was agreed that the owner should be presented once a month with an itemized statement covering labor, materials, etc., contracted during the preceding month and used in the building, and the owner should advance to the contractor a sufficient sum to cover same, and before any further money should be advanced by the owner, all receipted vouchers should be turned over to him for the preceding month.

The serious question in the case was: Did the plaintiff comply with the terms of the contract sued upon sufficiently to entitle it to recover? The defendant contended that the obligation to furnish vouchers for moneys expended in the employment of labor was an essential element of the agreement, and the court so held. The plaintiff expressly admitted in its pleadings that such vouchers were not furnished, and sought to substitute therefor certain canceled checks, that is, mere orders upon a bank for the payment of various sums of money to different persons, without any notation as to the purpose for which they were issued, or upon what consideration. The ordinary meaning of "voucher" is a document which shows that services have been performed or expenses incurred. It covers any acquittance or receipt discharging the person or evidencing payment by him. When used in connection with the disbursement of moneys, it implies some instrument that shows on what account or by what authority a particular payment has been made, or that services have been performed which entitle the party to whom it is issued to payment. The court held that the canceled checks referred to were not vouchers in any sense, as they gave no information whatever as to their purpose or connection. It was admitted in the evidence that the labor payments must have amounted to at least $2,000, and consequently there was no question of substantial performance to be submitted to the jury.

The plaintiff attempted to estop the defendant from demanding the labor vouchers, because he was sometimes present when laborers were paid, and knew that the plaintiff was not then taking receipts for such payments, but made no protest. It was held that this was not sufficient to constitute an estoppel, since it did not appear from the

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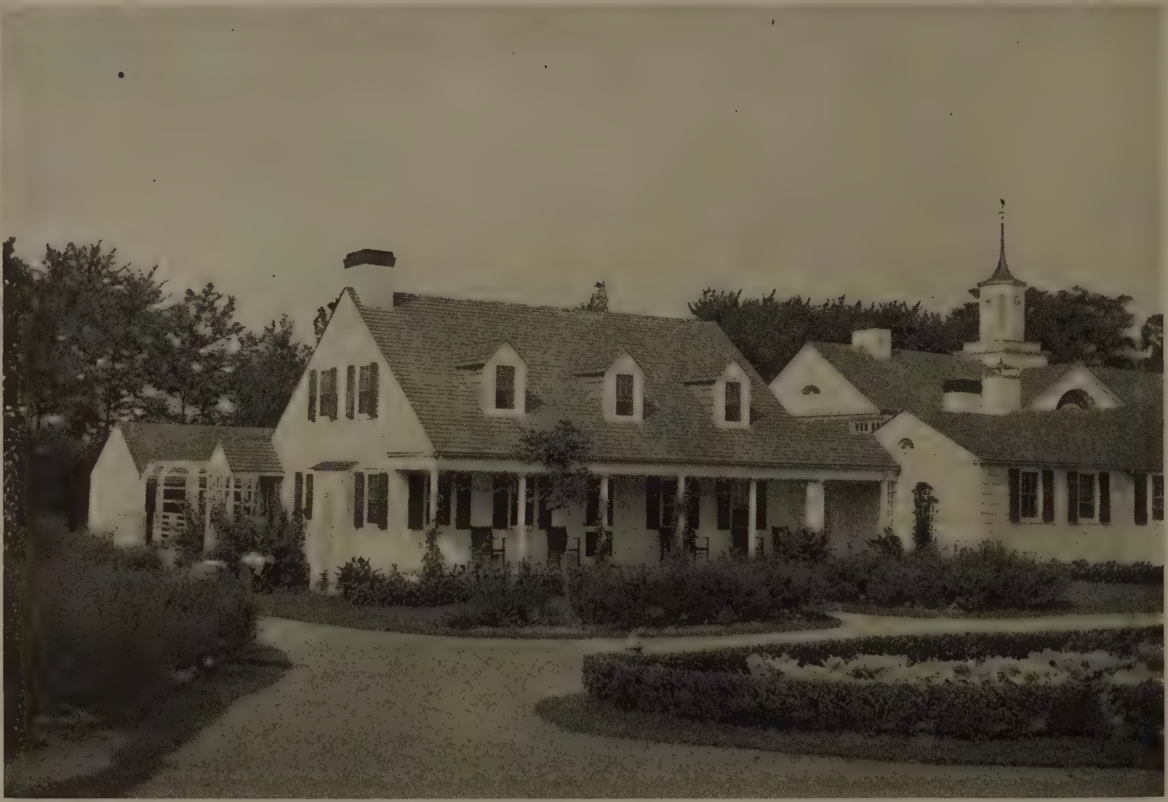

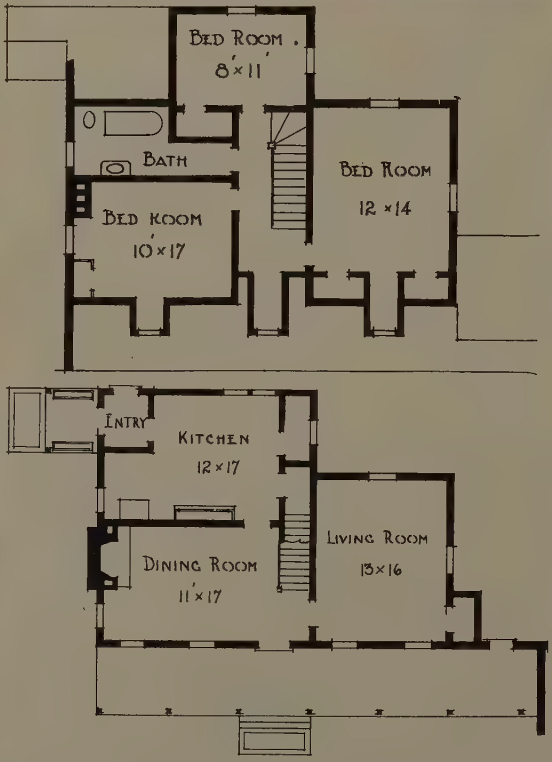

SUPERINTENDENT'S HOUSE AND PLANS, THE BROKAW ESTATE, GLEN COVE, L. I. Alfred Hopkins, Architect.

(Continued from page 39)

allegation that the acquiescence of the defendant caused the plaintiff to alter its position to its injury. On the contrary, the plaintiff asserted that its failure to secure receipted vouchers resulted from its interpretation of the terms of the written contract. Judgment of nonsuit was entered.—Camp & Duy Puy *v.* Lauterman, Oregon Supreme Court, 152 Pac. 288.

ACTION FOR ARCHITECT'S SERVICES.—QUANTUM MERUIT.—ENTIRE CONTRACT.

In an action by an Architect for his services, the plaintiff's statement of claim was for 2½ per cent. on $22,000, the cost of the erection of a building, but at the trial he proved that he was wrongfully discharged before the completion of the work, and that he was entitled to recover for services actually rendered, namely, two-thirds of the percentages for which suit was brought. The defendants made no objection to this method of proof and the jury returned a verdict for plaintiff for $388.67, for which judgment was entered. On appeal the only claim of the defendants was that the contract was an entire contract, and that the plaintiff was not entitled to recover on a quantum meruit. It was held that it was too late to raise this question for the first time on appeal. If they had raised objection during the trial and the trial court had sustained the objection, the plaintiff might have been able to submit testimony not open to the same objection.—Medoff *v.* Effenberg, 59 Pa. Superior Court 106.

ARCHITECT'S CERTIFICATE PRIMA FACIE EVIDENCE.

A contract provided for the issuance of an Architect's certificate and that payments were to be made to the extent of 85 per cent. of the value of the work as it progressed. In an action for the sum covered by a certificate stating on its face that it was issued under the terms of the contract, and which was within the 85 per cent. limitation, it was held that the certificate was prima facie evidence that so much of the work had been completed under the contract as to entitle the contractor to payment of the amount for which it was issued, and, together with evidence of non-payment, was sufficient to make out the plaintiff's case.—Rosenthal *v.* Turner, 192 Ill. App. 9.

FAILURE OF ARBITRATORS TO INSPECT MATERIAL.

In an action upon an award of arbitrators under a building contract, the defendant complained that its attorney at the hearing requested the arbitrators to go and inspect the terra-cotta blocks in controversy, and, although it was a universal and absolute custom among Architects, builders, and contractors, in controversies such as this, and arbitration thereon, that the arbitrators as experts make a personal and actual examination, inspection and test of the subject matter in controversy, yet the arbitrators in this case neglected to do so and therein were guilty of misconduct. Assuming, without deciding, that the arbitrators ought to have gone to the place where the terra-cotta blocks were stored and inspected them, it was held that this was not, under the defendant's averment, misconduct that involved moral turpitude. At any rate, under the Pennsylvania decisions, it was not such misconduct as vitiated the award, unless (which was not alleged by the defendant) the plaintiff was in collusion with the arbitrators or in some way implicated in their action.—Ketcham *v.* Odd Fellows' Hall Assn., 59 Pa. Superior Ct. 213.

OWNERS' RIGHTS UNDER SURETY BOND.—PROTECTION AGAINST SUBCONTRACTORS' AND MATERIAL MEN'S CLAIMS.

A building contractor obligated himself to furnish "a satisfactory bond of the full amount of the contract." The condition of the bond furnished was, that if the obligors should pay or cause to be paid unto the owner a sum stated "for the completion of a building as per plans and specifications and articles of agreement for" the owner in a borough specified, "without fraud or further delay, then the obligation to be void." The Pennsylvania Superior Court holds that the owner may, in an action on such a bond, introduce oral testimony to the effect that the agreement was that the bond was to furnish indemnity to the owner against claims of subcontractors and material men, and was not given merely to insure the completion of the building.

In such a case, the owner may recover not only the amount of liens filed against the building, but also amounts which he had voluntarily paid to material men, without waiting for them to file liens, where it appears that such payments were made on a written order from the contractor in which it was stated that the amounts were due, and that the owner would have to take care of them, as the contractor was without money to do so.

A provision in such a contract empowering the owner to retain a sufficient amount out of the contract price to indemnify himself against liens or claims, but without any provision requiring him so to do, is in relief of the owner, and is not intended for the protection of the contractor's surety. If the owner chooses to pay amounts due on the contract to subcontractors or material men, he may do so without waiting for claims or liens to be actually filed.—McCrum *v.* Love, 58 Pa. Superior Ct. 404.

CONTRACTOR'S BOND.—PAYMENTS TO CONTRACTOR.

By the terms of a building contract the contractor, for a definite consideration to be paid to him and under his direction to laborers and material men proportionately as the work progressed, undertook to pay for all labor and material and to construct and complete a building and deliver it clear of liens, and he gave a bond conditioned on the faithful performance of the contract. In an action on the bond, it was held by the Oklahoma Supreme Court that the owner in such a case has the right to perform the contract on his part by paying such consideration when due, in accordance with the terms of the contract; and in case of the breach of the contract on the part of the contractor, by his failure to pay claims and satisfy liens of subcontractors against the property, duly filed as provided by statute, the owner may pay such claims and discharge the liens without awaiting suit and judgment thereon, and look to the bond for reimbursement for the amount he is thus compelled to expend in excess of the contract price. The fact that the owner paid the contractor, in conformity with the contract, without awaiting the expiration of sixty days after the time the labor was performed or material furnished for which liens are established upon his property, does not relieve the surety from liability on his bond.—Gorton *v.* Freeman (Okla.), 152 Pac. 127.

BUILDING RESTRICTIONS.—RESIDENCE PURPOSES.—APARTMENT HOUSE.

The owner of a piece of land plotted it, cutting a

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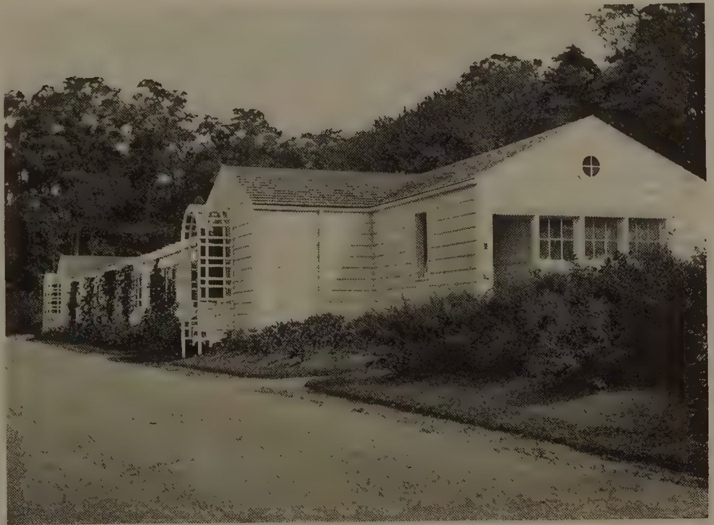
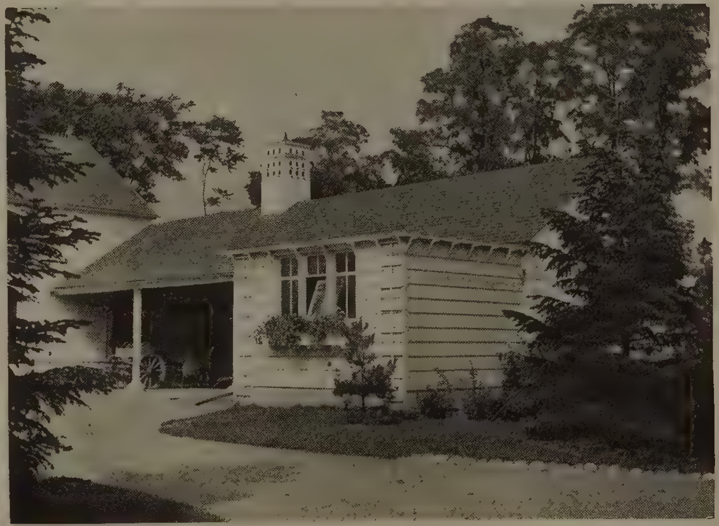
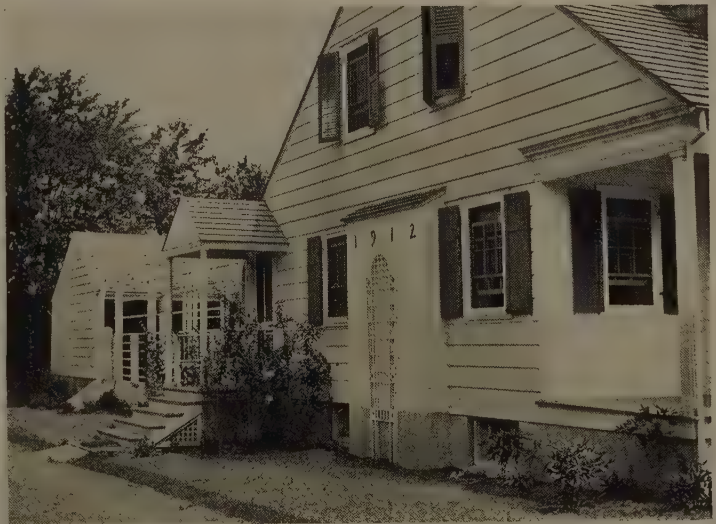


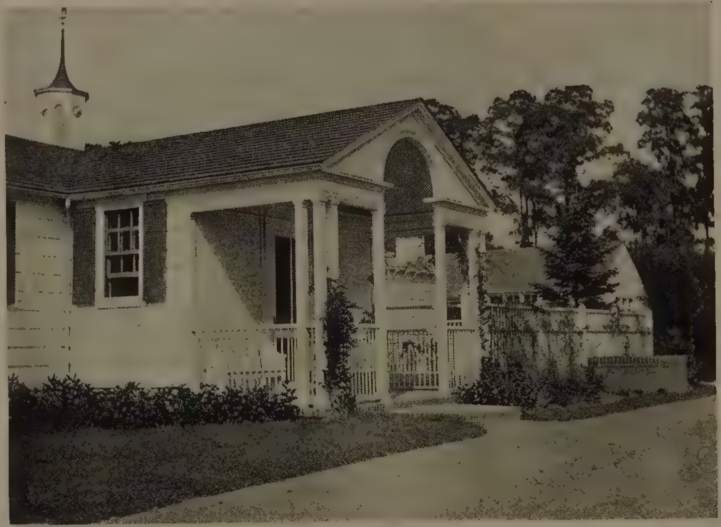
Chicken House



Tool House and Wagon Shed.



Detail, Superintendent's House.



Dairy.

FARM BUILDINGS, THE BROKAW ESTATE, GLEN COVE, L. I.

Alfred Hopkins, Architect.

(Continued from page 41)

short street which intersected with another street on which there were business buildings and a car line. The corner lot, which abutted also on the business street, was sold without restrictions other than that it should be used for residence purposes only. Subsequently other lots in the subdivision were sold, with restrictions limiting the owners to the erection of single dwellings. In a suit to enjoin the owner of the corner lot from erecting an apartment building on it, the Michigan Supreme Court held that, notwithstanding the subsequent purchasers followed the restriction save as to the building line, such restrictions could not defeat the right of one who subsequently acquired the corner lot to erect an apartment house. The evidence was insufficient to show that when the defendant acquired the lot he took it with notice that it was contemplated that every lot on the residence street should be limited to a single dwelling. The fact that the erection of an apartment house would be detrimental to the interests of the neighborhood was held to be no ground for injunction, where it was within the defendant's legal rights.—Casterton *v.* Plotkin (Mich.), 154 N. W. 151.

Damages for Breach of Contract.

In an action for breach of building contracts a contractor and builder of twenty years' experience testified in behalf of the plaintiffs, the owners, that the difference between the value of the building as constructed and the value of the building if it had been constructed according to the contract was $2,560, and an Architect of twenty-four years' experience, also in behalf of the plaintiffs, placed the difference at $2,935. The defendants did not introduce any evidence bearing on the question of damage. In these circumstances it was held that the trial court was justified in finding damages in the sum of $2,560.—McBride *v.* Leney, 192 Ill. App. 18.

Premature Final Certificate—Effect of Architect's Bad Faith.

A building contract provided that the Architect's final certificate of the amount due the contractor should be conclusive evidence of his performance, and that final payment should be made 35 days after completion. In an action by the contractor for a balance alleged to be due, it was held by the Colorado Supreme Court that the Architect's final certificate was, in effect, an account stated, or liquidation of the amount due the contractor, who was not required, in the first instance, to introduce evidence to sustain his claim, but was entitled to a judgment upon the face of the certificate, unless the Architect's fraud or bad faith was shown.

"It is a matter of common knowledge," the Court said, "that owners are very much in the power of contractors and Architects, especially when they contract away, as was done in this case, the right of appeal to the courts, by providing in the contract that the Architect's final certificate shall be conclusive evidence of the performance of the contract by the contractor. To prevent fraud, injustice, and oppression, the courts have universally held, where such a contract was involved, that it is competent for either party to allege and prove, for the purpose of avoiding the certificate, that the Architect did not exercise an honest judgment, or that he acted arbitrarily, capriciously, and in bad faith." It held that evidence that the Architect's final certificate was given two days before completion, instead of 35 days thereafter, as provided by the contract, and that, while the building was not completed in substantial conformity with the contract, and the Architect's attention was called to, and he knew of the defects, he gave his final certificate notwithstanding, was admissible on the issue of his bad faith.

Validity of Architect's Certificate.

A contract for the installation of a power plant in a building stipulated that if the Architect and engineer should certify to the owner that the contractor was not doing the work properly, the owner could take possession of the premises and the contractor's tools and complete the work and deduct the cost thereof from the unpaid portion of the contract price. In an action for the balance of the contract price there was no evidence of fraud or mistake as to some material fact on the part of the Architect and engineer. The California Supreme Court held that it was error to instruct the jury that if the Architect and engineer "correctly" certified that the plaintiff had failed and refused to do the work properly, this would justify the owner in terminating the contract and completing the work. The certificate was conclusive unless impeached by a showing that it was made fraudulently or under mistake with regard to a material fact.

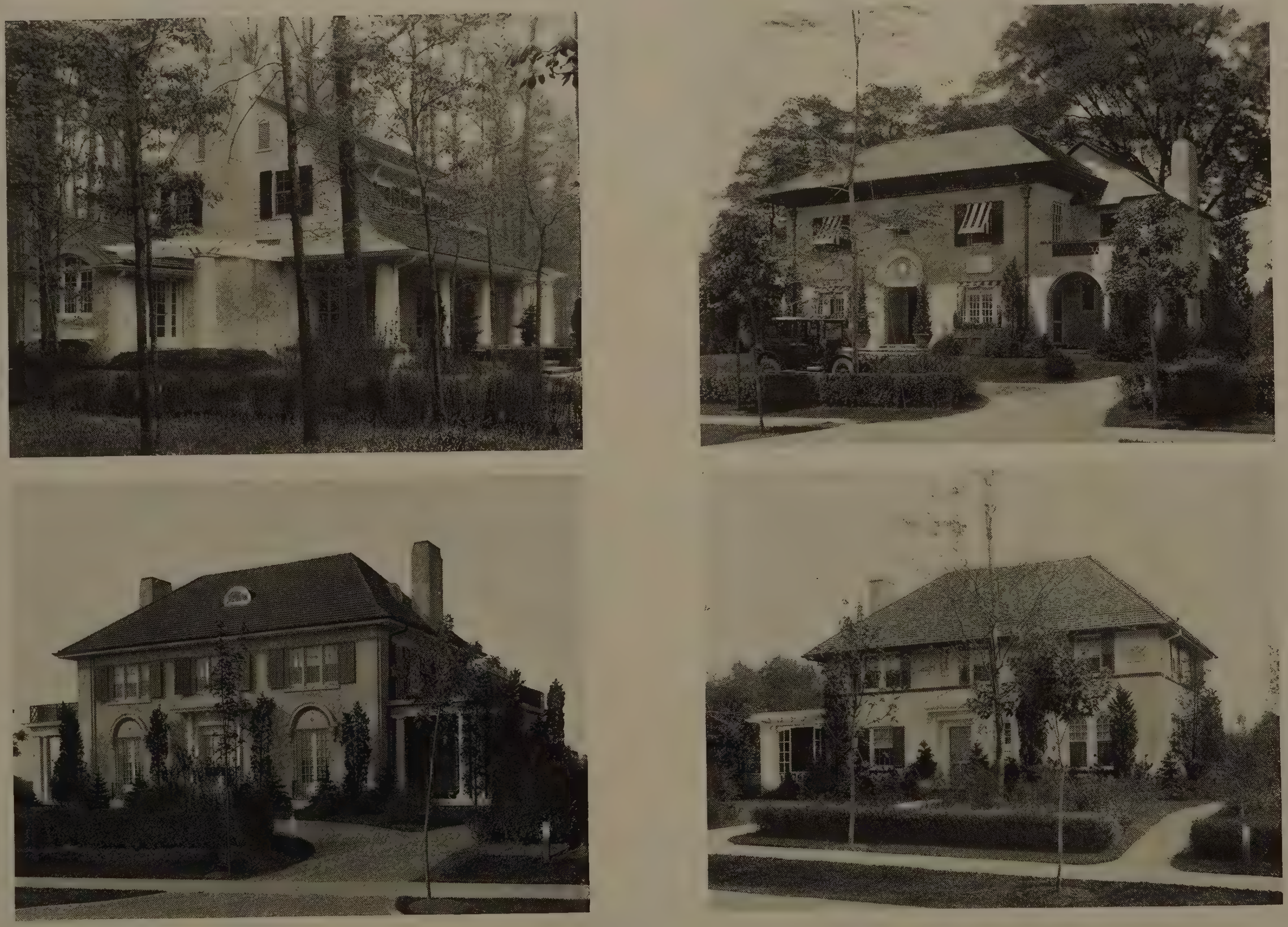
The certificate was not vitiated by the fact that a letter from the Architect and engineer to the contractor contained a schedule of the items of defects and lack of performance of the work, where the letter was a demand that the contractor remove the defects and perform the work, and such demand had no relation to the certificate.—Connell *v.* Higgins (Cal.) 150 Pac. 769.

Discharge of Contractor's Surety.

A building contract stipulated for payments in installments as the work progressed, based on monthly estimates of all work done and material furnished and paid for, subject to correction by the Architect in any subsequent monthly or final estimates. In an action on the surety's bond it was held that the owner must not authorize any certificate on which monthly payments to the contractor are to be made, unless the labor performed and materials furnished were paid for; but where the estimates include labor or materials not actually performed or furnished, and a certificate for more or less than was due at a particular time was issued, and payment made to the contractor, the error could be corrected and included in a subsequent estimate without impairing the legal rights of the parties to the contract, and errors in estimates were not such a departure from the contract as would relieve the contractor's surety from liability on his bond.

Payment Without Architect's Certificate.

The California courts hold that a surety on a contractor's bond cannot claim a discharge from its obligation because of a premature payment by the owner to the contractor if it has not been harmed by such prepayment. It is not relieved of its liability by reason of a change in the contract without its knowledge where changes are made wholly at the expense of the one for whose protection the bond is given and did not add to the surety's liability. A provision in a building contract for payments on the certificates of the Architect is for the benefit of the owner only, and a payment made without such certificate would not constitute a premaure payment if it was actually due at the time of payment.—Dunne Inv. Co. *v.* Empire State Surety Co., (Cal.) 150 Pac. 403.



THE ARCHITECT'S SCRAP BOOK—HOUSES AT KENSINGTON, GREAT NECK, L. I.

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Editorial

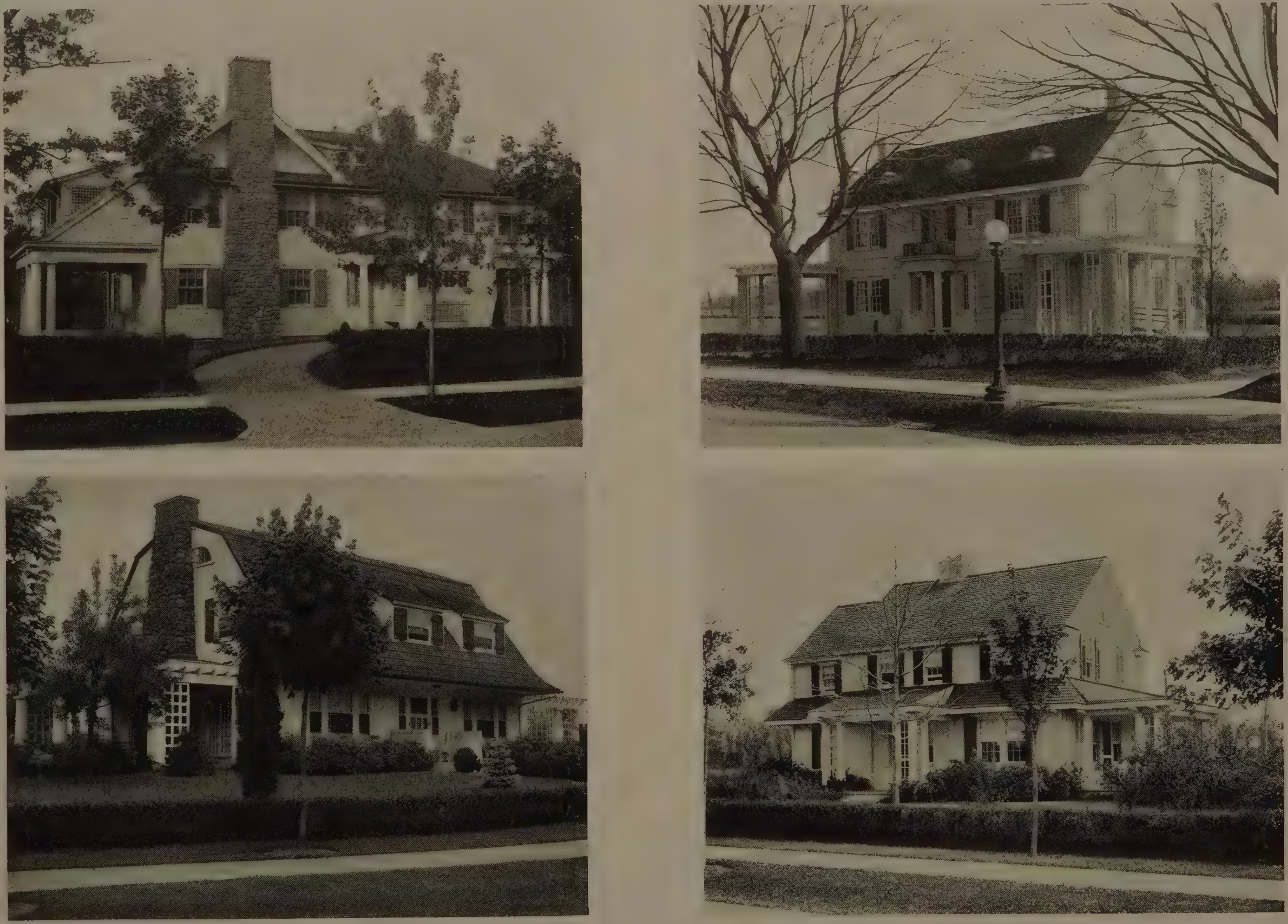
The Architect of the Department of Justice—Exhibition Time Again—The American Academy in Rome

IT is to be regretted that in our editorial in the January number we acted mistakenly in stating that there has been friction between the Remington Arms & Ammunition Company and their Architect with respect to workmen's homes and apartment houses built from designs of the Architect. The statement was entirely erroneous and made inadvertently and does an injustice to a highly esteemed and capable member of the profession.

As a matter of fact, we have learned that the relations between him and his clients, the Remington Arms & Ammunition Company, are most cordial and that the company is highly appreciative of the successful work which he did for them, and which has met with its entire satisfaction.

We may add unreservedly that we concur in the commendation which the buildings erected from the designs of the Architect mentioned have aroused both for their attractiveness and practical value.

We cheerfully make this correction as an amende honorable due to the gentleman referred to.



THE ARCHITECT'S SCRAP BOOK—HOUSES AT KENSINGTON, GREAT NECK, L. I.

A CIRCULAR letter sent out by the Secretary of the American Institute of Architects calls attention to a bill before Congress (H. R. 743) "which Architects particularly, and honest men should oppose with all the power at their command." This bill refers to the proposed building for the Department of Justice, and a brief resume of the situation is necessary to make it thoroughly understood.

In May, 1908, Congress appropriated $2,500,000 to purchase sites for buildings for the Departments of Justice, State and Commerce and Labor, and in June, 1910, Congress appropriated $200,000 for designs and estimates on these three buildings, authorizing the Secretary of the Treasury to procure them. The Secretary of the Treasury invited three groups of twenty Architects each to submit designs in competition, and it will be remembered that those three competitions were held simultaneously, and the Architects included in them were all of the first reputation, and the program stated unequivocally under the signature of the President and two cabinet officers, that the successful Architect in each group would be appointed to design and supervise the construction of the building for which he was competing, and would receive as his compensation 6% of the cost. Competitive designs were submitted on December 30, 1910, and the awards were made to Donn Barber for the Department of Justice; Arnold W. Brunner for the Department of State, and York & Sawyer for the Department of Commerce and Labor. These three buildings are to be erected on sites in conformity with the general scheme for the city of Washington, prepared some years ago by the commission, and, as is appropriate, are to be erected in harmony with each other; therefore after the competition was closed and the successful competitors were announced, these competitors revised their competitive sketches to be in harmony with each other, and these revised designs were approved and signed by the President, the Secretary of the Treasury and the cabinet officers of each of the departments, respectively. Formal contracts were executed between the Secretary of the Treasury and the three successful Architects, but because Congress had not appropriated all the money required for Architects' fees, the formal contracts were made for partial services, but contained a paragraph binding both parties to enter into supplementary contracts covering complete architectural services, as soon as the necessary appropriations were secured from Congress. The professional services included in these contracts were performed, and the Architects received the payments stipulated therein, but Congress failed to appropriate the money for the new buildings, and for a long time nothing was done.

In February, 1914, the Attorney General drafted a bill (H. R. 12801) calling for an appropriation of $3,000,000 for the construction of a building for the Department of Justice, and provided for a supplementary contract with the appointed Architect in accordance with the terms of the contract formerly entered into with him. This bill was opposed by the new Secretary of the Treasury, who immediately thereafter prepared a new bill (H. R. 13870) which would give to the commission in charge of the building the authority to engage any Architect whom it saw fit, and excluded the Architect from the supervision of the construction of the building. The Secretary wrote to a certain Senator, in reply to request for information, a letter, from which the following is quoted. "The legislation for the proposed building for the Department of Justice permits of the employment of Mr. Barber. The clause which it also contains permitting of the employment of another Architect was inserted in order to give the commission created by the legislation a discretion which I believe it should have in the public interest."

"Insofar as this Department is concerned, the obligation of the Department to Mr. Barber is a moral one. Nothing in the pending legislation prevents acknowledgment of this claim, and the Department would undoubtedly, in the event of the passage of the legislation, give Mr. Barber every consideration."

And soon after this letter was written Senator Swanson introduced into the Senate a bill (S. 6059) which was identical with the bill previously introduced into the House. The Institute sought a hearing before the Senate Committee, but was not granted an opportunity to be heard, and the bill fortunately failed passage on a point of order by Senator Root, who had from the first been opposed to it.

In the present session of Congress, on December sixth Mr. Clark of Florida reintroduced the bill as H. R. 743, and it was referred to the House Committee on Public Buildings and Grounds.

The American Institute is very keenly alarmed and disappointed at this proceeding on the part of the Secretary of the Treasury and of Congress. The Institute has from its beginning endeavored to uphold the right, fair and unequivocal course of conduct on the part of its own members, and expects similar fair dealing on the part of persons and corporations with whom its members enter into contracts, and it has been a continued source of disappointment that one of the worst clients with whom its members have entered into contracts has been the United States Government.

The history of our public buildings from the first has been one of delays, broken faith and arbitrary interference on the part of Congress with the functions of the Architect. A curious thing has been that these delays and interferences have seldom served a purpose useful to the country, or even useful politically to the men who have been instrumental in them. It seems hardly likely that there can be any political reason why Mr. Barber's contract should be abrogated, and there does seem every possible reason why it should be continued.

The Secretary of the Treasury in his letter states that insofar as this department is concerned the obligation of the department to Mr. Barber is a moral one, but unless our understanding of the terms of the contract is very faulty, it would seem to be far more than that—a definite and a legal obligation.

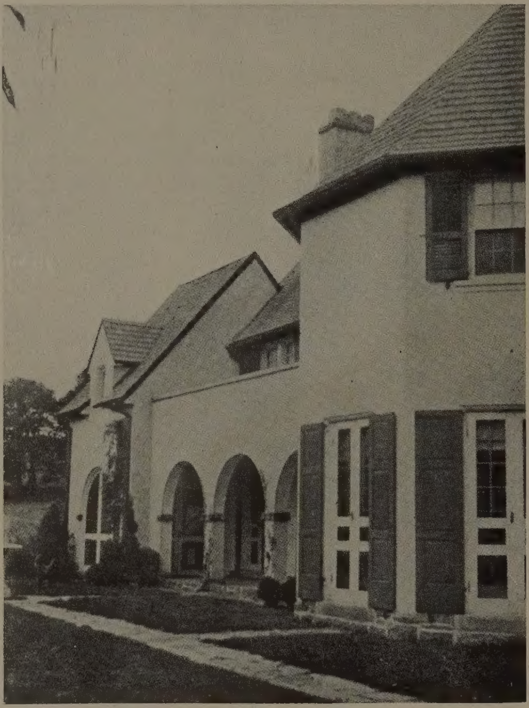
We think that there is no necessity of pointing out to the profession the injustice of making an appropriation, under the terms of which Mr. Barber's appointment might be superseded, nor can be imagine any reason for the introduction of a bill in such terms, except a desire to thus act, but there are certain reasons aside from the obligation, both contractual and moral on the part of the Government, which would seem to make Mr. Barber's continuance as Architect just, fair and useful.

In the first place the Government has been calling for economy in all possible ways. Certainly here is an excellent opportunity to save a third of the $200,000 which has been presumably expended in Architects' fees, and we cannot see how money could be more uselessly spent than for a new competition or for new sketches.

In the second place it would be impossible to obtain either from the membership of the Institute or from among

(*Continued page 49*)

American Architect.



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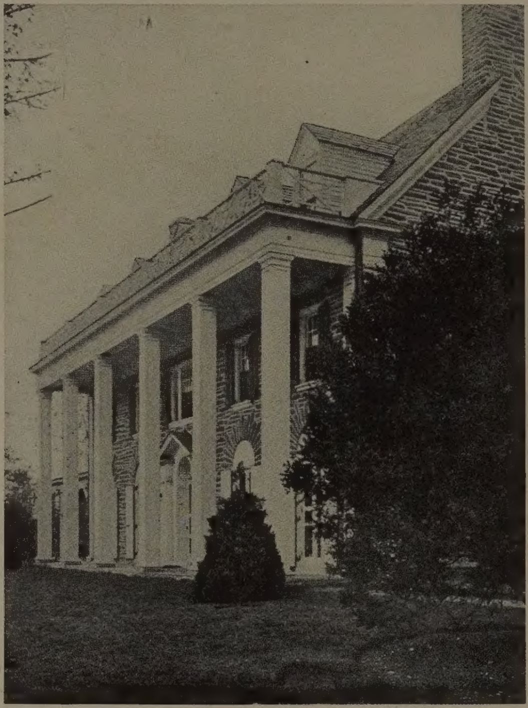
R. R. McGoodwin, Architect.

American Architect.



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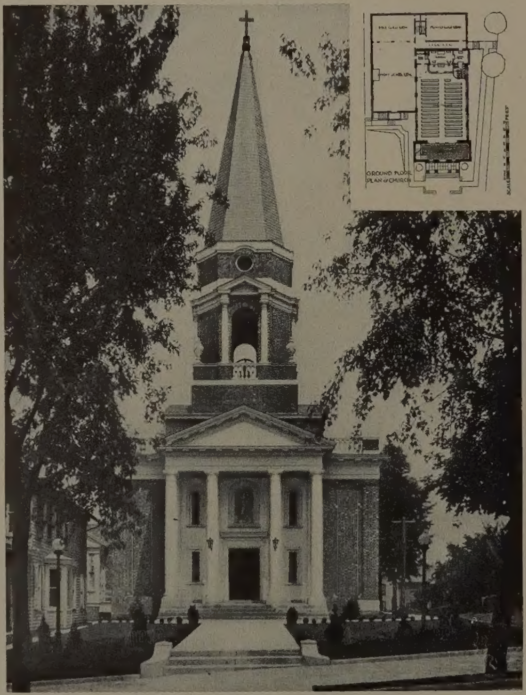
Brickbuilder.



Bethany Reformed Church, Ephrata, Pa.
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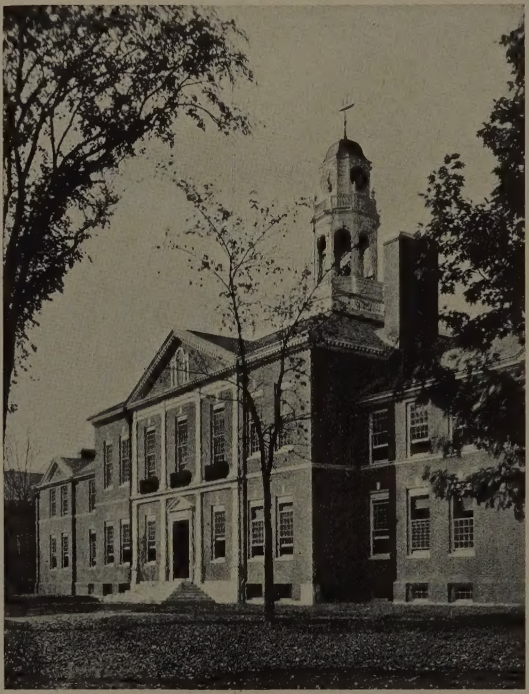

Academic Building, Exeter, N. H.
Cram & Ferguson, Architects.

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those Architects who were not members of the Institute, twenty men of equal calibre to compete in a new competition for the building, and even supposing such a new competition were held and a new Architect selected it is not logical to assume that he could in less than a year or two years (allowing for the slow processes of Congress) study his scheme and revise it to harmonize with the schemes for the other buildings. Therefore, in addition to the loss of money there would be a very great loss of time, and assuming that the present state of affairs to continue under a new administration, the same process might well be repeated at a future date.

Third: it is hard to believe that Architects of the caliber of Messrs. Brunner and York & Sawyer would be willing to work in conjunction with an Architect who would be obtained in this new and unfair way, as they have been willing to work with Mr. Barber, and while it is conceivable that a design equally as good as Mr. Barber's might be obtained, it is very improbable that the harmony so important to the successful development of our Capital should be achieved by a new Architect, thrust or thrusting himself, into Mr. Barber's place.

The Institute insists,—and we heartily concur in its view—that it is the duty of every honest practitioner and of every honest man generally to oppose this bill to the utmost of their several powers. This, of course, can not be done directly; if the Institute itself has failed to obtain a hearing before Congress, individual members of the profession may be no more successful, but there are many in the profession who have personal acquaintance with some of our Representatives and Senators and their appeal should be personal. The rest of us can make our desires known through the daily newspapers and magazines, or by letters to Representatives and Congressmen of our respective districts. In this connection it might be said that if you do not happen to know who your Representative or Senator is, you can find out from Colliers Weekly, who have a department to furnish such information.

A proceeding such as the one which Congress proposes to authorize would be intolerable in the individual, and without evidence of professional misconduct on the part of the appointed Architect could not be upheld by any court in the United States. On the part of the Government such conduct is not less iniquitous and reprehensible.

THE time for holding the annual exhibitions of the architectural societies is again at hand, and we wish to remind the profession that they owe a certain duty to each other in supporting these exhibitions to the utmost of their ability. It is the best means which the profession has of showing the public what good architecture really is, and the higher the standard of public taste is raised the greater will be the demands on the profession.

This magazine conceives it especially desirable to have the Architects of the larger cities present work for exhibitions in the smaller ones, since it is in the outlying portions of the country that less material is available for purposes of comparison and for general information of the public.

The interest in these exhibitions is by no means confined to the professional men; they are widely and constantly attended by the public, and while it is perhaps unusual to find that a job is obtained directly from them, they are the very best instruments by which the public can be shown what the Architects themselves consider quality work, and general support both in exhibiting and in attending should be given by the profession.

THE Fellowships of the Academy Prizes of Rome are: An Annual Fellowship in Architecture, of the value of $1,000 a year for three years; an Annual Fellowship in Sculpture, of the value of $1,000 for three years; an Annual Fellowship in Painting, of the value of $1,000 a year for three years; a Fellowship in Landscape Architecture, of the value of $1,000 a year, for three years. Next competition in 1918.

The awards are made on competitions which are open to all unmarried men, citizens of the United States, without age limit, who fulfill the requirements of the Academy as stated and who agree to comply faithfully with all its regulations.

BOOK REVIEWS

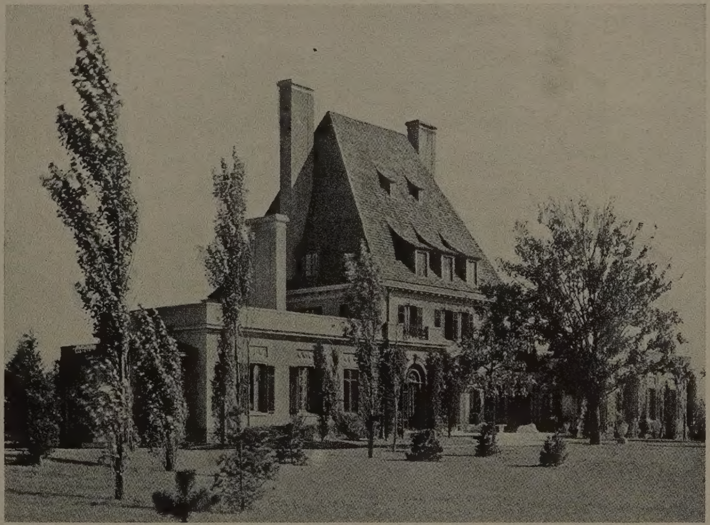
KIDDER'S ARCHITECTS' AND BUILDERS' POCKET BOOK, Sixteenth Edition. 1916. John Wiley & Sons, Inc., New York. Price $5.00.

After more than three years of arduous labor, the New Kidder is now out. It was decided to retain Mr. Kidders original arrangement of the subject-matter which is divided into three parts, Part I dealing with practical applications of arithmetic, geometry and trigonometry, Part II with the materials of construction and the strength and stability of structures, and Part III with miscellaneous useful information for Architects and builders. Each of the twenty-nine chapters of Part II, however, has the name of the associate editor who revised or rewrote it printed with the chapter caption. Part I has been carefully checked and much of the matter rearranged. The twenty-eight chapters of Part II have been rewritten and one new chapter has been added on reinforced concrete mill and factory construction. Part III has been largely rewritten and all subjects retained have been thoroughly revised. To this part, also, much new matter has been added, such as extended tables of specific gravities and weights of substances, architectural acoustics, waterproofing for foundations, the quantity system of estimating, the standard documents of the American Institute of Architects, educational societies of the world and extended lists of architectural schools, books and periodicals. The editor-in-chief has, with very few exceptions, personally checked on every page of manuscript, galley-proof and page proof the equations, formulas, computations and problems, and has read or examined carefully every word, figure and illustration, every detail of syntax, paragraphing, punctuation and typography, and every arrangement of tables, captions, classifications, notation, table of contents and index. He is responsible for many changes in the form of presentation of data which it is hoped will add to the pocket book still more of that efficiency and practical helpfulness for which it has been so long noted. Some of these changes may be briefly mentioned. The text has been entirely reset; the type, while slightly smaller, is clearer and has the lines and paragraphs separated by wide leads; a special type is used for the tables; the paragraphing is revised throughout and every paragraph has a black-face type caption descriptive of the subject matter; words in italics or with quotation marks are seldom used, words in small caps taking their place; every chapter is divided into numbered chapter subdivisions which are briefly descriptive of the classified matter; the number of cross references is largely increased and the page numbers of such references are almost always added; many tables and diagrams which in the former editions read lengthwise of the page have been reset or re-engraved to read across the page for greater convenience; the number of illustrations has been largely increased, many old cuts reused have been re-engraved, and some diagrams printed with lines of different colors to make the demonstrations clearer; a descriptive caption has been added to every illustration; the abbreviations Chap. I, Chap. II., etc., have been printed with each page caption of the left hand pages, thus avoiding the necessity of referring to the table of contents to locate any particular chapter.

MODERN SCHOOL HOUSES, PART II. 1915. The American Architect (Inc.). New York. Price $7.50.

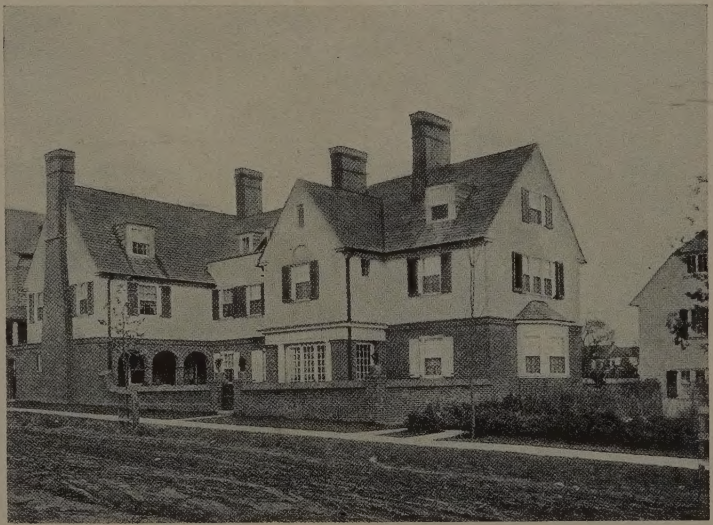
The contributed articles and the schools illustrated are the work of men whose reputations as the best exponents of this type of building are unquestioned. All the school buildings illustrated and described are of comparatively recent construction, and, condensed into a single volume, affords an unusual opportunity for intimate and careful study of the modern school house that will be of much value to architects.

American Architect.



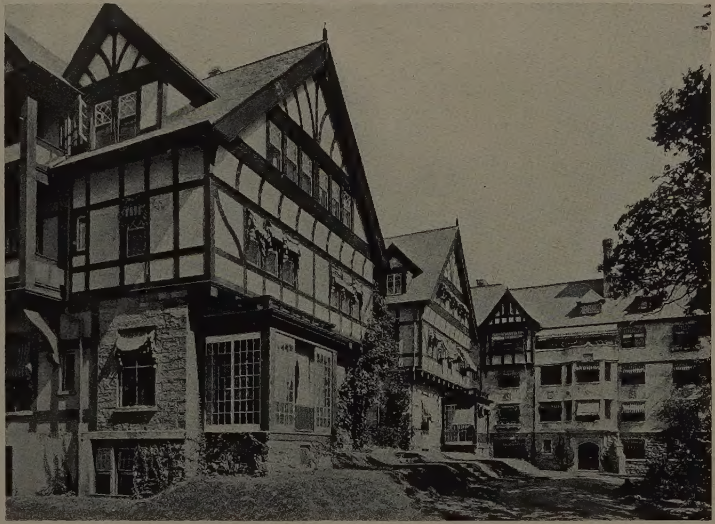
House, Chas. A. Gould, Greenlawn, L. I. John Russell Pope, Architect.

Architectural Record.



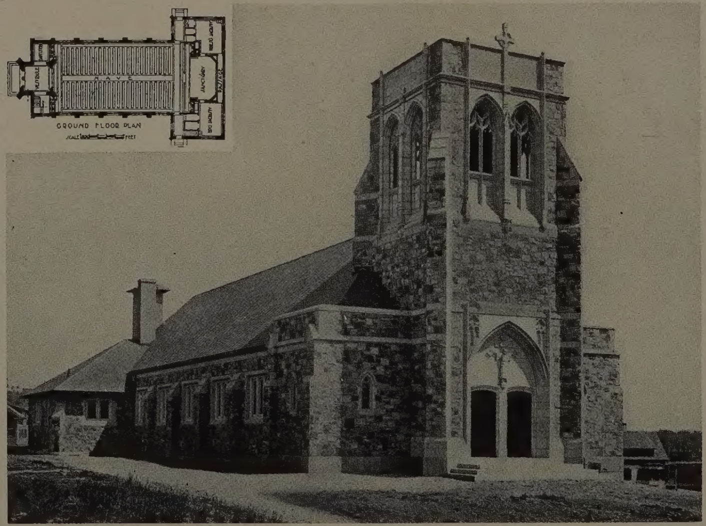
House, St. Martins, Philadelphia. E. B. Gilchrist. Architect.

American Archittect



Alger Court, Bronxville, N. Y. Bates & How, Architects.

Brickbuilder.



R. C. Chapel, North Weymouth, Mass. Chas. R. Greco, Architect.

MONTHLY PICTORIAL REVIEW SHOWING THE BEST WORK PRESENTED BY OUR CONTEMPORARIES.